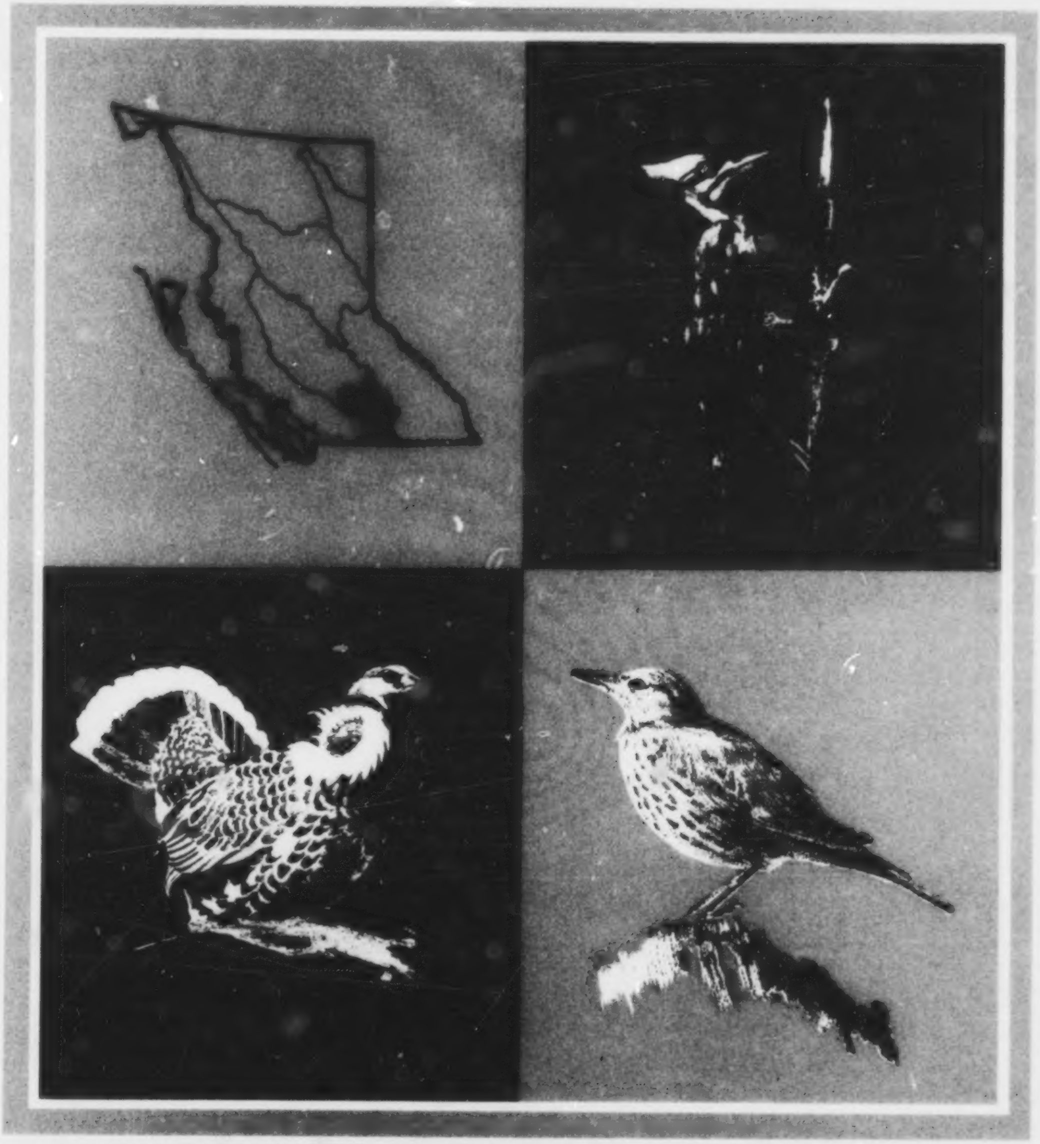
WILDLIFE HABITAT Handbook

for the Southern Interior Ecoprovince



Vol. 6 Species — Habitat Relationship Models for Selected Birds

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Ministry of Forests

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WILDLIFE HABITAT HANDBOOKS FOR THE SOUTHERN INTERIOR ECOPROVINCE

VOLUME 6:
SPECIES - HABITAT RELATIONSHIP MODELS FOR BIRDS

Ralph Ritcey
David Low
R. Richard Howie
and
Andrew P. Harcombe

A cooperative effort of the
Ministry of Environment (Wildlife Branch),
the Ministry of Forests (Research Branch),
and Wildlife Habitat Canada

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PREFACE

This publication is part of the series "Wildlife Habitat Handbooks of the Southern Interior Ecoprovince". The purpose of this series is to provide forest, wildlife, and range managers with the knowledge and tools to assess impacts of various land management practices on wildlife and its habitat. Basic to this assessment process is an understanding of wildlife's relationship to habitat.

The information in this series applies specifically to the Southern Interior Ecoprovince and similar ecosystems in the southern area of British Columbia. The principles and processes described, however, apply generally to all managed forests and rangelands, when the welfare of wildlife is affected by land management decisions.

The series is a comprehensive package composed of eleven separate volumes. Although each part will be an independent treatment of a specific subject, when combined in sequence, the individual parts will be as chapters in a book. The final sequence is shown on the inside back cover of this publication, but individual chapters will be printed as they become available. Though this ensures that the information will be used as quickly as possible, the order of production will not be the same as the final organized order.

"Wildlife Habitat Handbooks of the Southern Interior Ecoprovince" is a cooperative effort of the British Columbia Ministries of Environment (Wildlife Branch, Fisheries Branch), the Ministry of Forests (Research Branch), the Ministry of Municipal Affairs, Recreation and Culture (Royal British Columbia Museum), the University of British Columbia and Simon Fraser University, and the Canadian Wildlife Service.

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The authors would like to thank Lynne Foxall, Dauna Walker, and Darla Cooper for their patience in typing this document and in enduring the changes and editing that invariably follows. Intensive editing was done by Tracy Hooper and Elizabeth Stanlake, while Linda Stordeur prepared the final format prior to publication. Cover design was by Nicholas Newbeck. Graphics were prepared by Gail Harcombe, Glenn Kubian, and Rick Thomas.

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1

Introduction

1. INTRODUCTION

1.1 Background, Philosophy and Limitations

The major wildlife goal in British Columbia is to maintain the diversity of species. This is a difficult goal to achieve with the large number of species, habitats, and land use activities. For most species, the desired information for management is scanty, scattered, and descriptive. Thus it is difficult to predict outcomes of land use practices on habitat and on wildlife, especially with few staff, low budgets, and high rates of habitat change.

The wildlife habitat handbook project was initiated to develop planning tools to aid wildlife habitat managers in predicting consequences of management activities on habitat and therefore on wildlife. Two major premises of this handbook are:

1) most wildlife habitat will be managed indirectly by influencing other resource managers to modify their activities for the benefit of wildlife;
2) all wildlife species and their habitat requirements must be considered in the process.

This handbook system organizes biological data for various ecosystems or habitats, in a framework that assists resource managers in predicting consequences and in developing alternatives. It is based on similar approaches to species diversity management in the United States. Our approach was to begin with a pilot study in the Southern Interior Ecoprovince (see Figures 1 and 2). This set of information pertains only to the Southern Interior Ecoprovince, and may not be valid in other areas of the province.

The following report assimilates knowledge on the relationships between birds and their habitats, based on a blend of literature and professional expertise. Several assumptions are made. The first is that habitat requirements of wildlife can be related to successional stages for most habitats, and the second is that the resulting values (i.e. relating animal use to habitat) are a good approximation of those habitat requirements. The third assumption is that of the possible life requisites, the three most important are feeding, reproduction, and special needs. The fourth assumption is that habitats of comparable value to a species seasonal needs can be substituted for each other. Very little experimental data or documentation were available on which to base the model ratings. Whenever information in the literature was not definitive, we used judgement and inferences. The guiding philosophy for using these data was to be flexible and to do the best with present knowledge, while always looking at ways of improving as more knowledge is gained.

Extensive *habitat* management by using such activities as logging and grazing is relatively new, and wildlife inputs to the planning process must be initiated for all wildlife species. A knowledge of wildlife-habitat relationships will aid in the development of coordinating guidelines to integrate these requirements with other land use activities. This system will not resolve all problems; rather, it will provide a systematic organization of available biological information on species and their habitat needs in a useful way. Professional input by biologists will still be needed to ensure correct interpretations and to validate the applicability of models, which represent "average" conditions and anticipated responses. Other resource uses will continue regardless, and our best knowledge, though often inadequate, must be utilized now; we cannot afford to wait for better data quantity or quality.

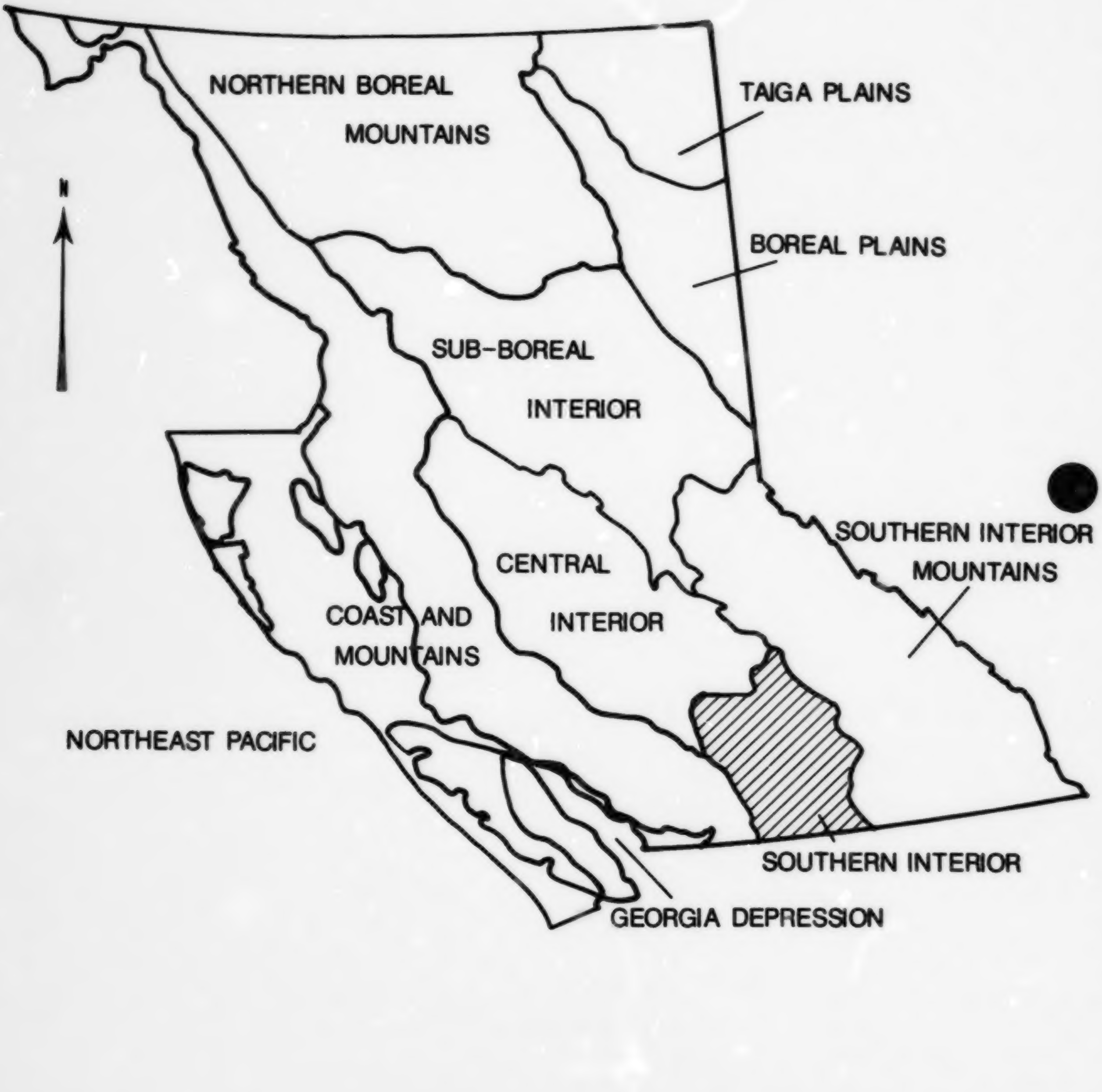
NORTHERN BOREAL MOUNTAINS
TAIGA PLAINS
N
BOREAL PLAINS
SUB-BOREAL INTERIOR
SOUTHERN INTERIOR MOUNTAINS
CENTRAL INTERIOR
COAST AND MOUNTAINS
NORTHEAST PACIFIC
SOUTHERN INTERIOR
GEORGIA DEPRESSION

Figure 1. Location of the Southern Interior Ecoprovince.

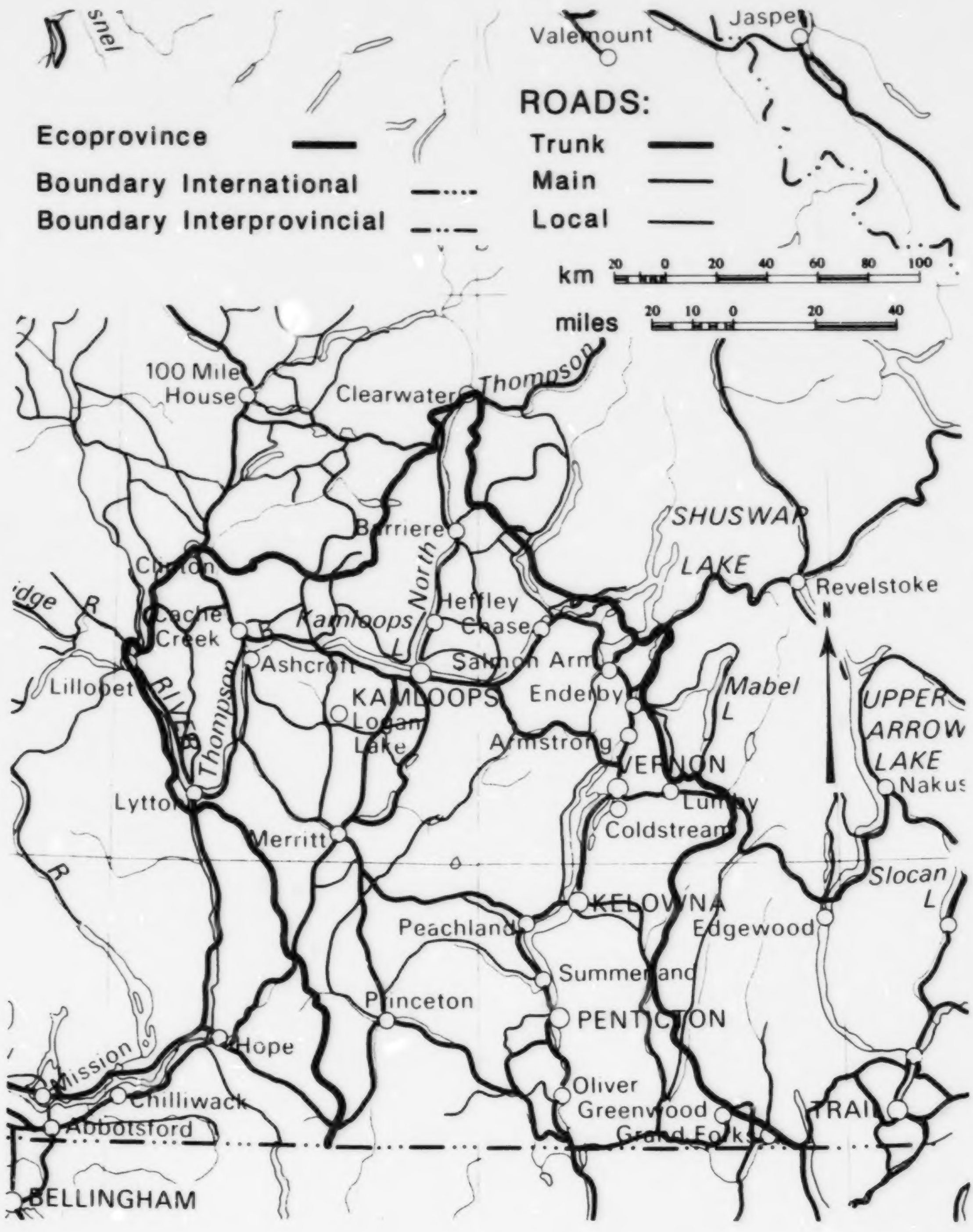
snel
Valemount
Jasper
ROADS:
Ecoprovince
Boundary International
Boundary Interprovincial
Trunk
Main
Local
km 20 0 20 40 60 80 100
miles 20 10 0 20 40
100 Mile House
Clearwater
Thompson
Barriere
North
SHUSWAP LAKE
Revelstoke
Clinton
idge R
Cache Creek
Kamloops L
Heffley
Chase
Ashcroft
Salmon Arm
Lillooet
KAMLOOPS
Enderby
Mabel L
UPPER ARROW LAKE
RIVER
Thompson
Logan Lake
Armstrong
VERNON
Nakusp
N
Lytton
Lumby
Coldstream
Merritt
R
KELOWNA
Slocan L
Peachland
Edgewood
Summerland
Princeton
PENTICTON
Mission
Hope
Oliver
Chilliwack
Greenwood
TRAIL
Abbotsford
Grand Forks
BELLINGHAM

Figure 2. The Southern Interior Ecoprovince

2

Species Habitat Relationship Models

2. SPECIES-HABITAT RELATIONSHIP MODELS

2.1 Explanation of the Species-Habitat Relationship Data Base

Species nomenclature follows that described in Volume 2. For synonyms, codes, and scientific names refer to Volume 2 (Campbell *et al.*).

For each species (see Chapter 4 for complete listing), a standardized set of information is provided in two types of tables. The first table consists of a listing of all habitats or habitat complexes used by that species; the seasons it uses each habitat; and the expected relative abundance of the species in that habitat. For the habitat classification, we followed a province-wide scheme (Harcombe and Lea (in prep.)); detailed descriptions of habitats used in the models may be found in Harcombe *et al.* (1988).

For seasons, we use summer (S) and winter (W). Summer, as used here, includes the traditional seasons of spring, summer, and fall, unless spring and/or fall are explicitly named separately. For relative abundance, we followed a ten-part scale ranging from accidental to very abundant (Table 1). Numbers cannot be assigned to these categories of abundance. Hence, a species with a very large home range may only achieve a rare or scarce category, even if that species is at maximum densities. Abundance is a qualitative rating, but some quantification is attempted.

The second set of tables or matrices displays the species-habitat relationship values for:

1) all habitats in which the abundance was rated as common or abundant for a particular season of use; or
2) all habitats in which the highest abundance category was only scarce.

This principle was followed since we expect that most species will only be managed in habitats where they are fairly common or if they are very scarce.

There are three formats to the species-habitat relationship matrices, depending on the habitat: 1) upland and wetland habitats; 2) aquatic and deepwater habitats; and 3) man-influenced habitats. All matrices identify the habitat and applicable season of use for the model. For all native upland or wetland (palustrine) habitats, the tables display a full set of successional stages (see Figure 3). These successional stages are designed primarily for forested habitats, but are also used when only herbaceous or shrub-dominated stages exist for the habitat. For example, suitability values for a shrub wetland complex will only be entered under the first two successional stages. The six successional stages are:

1) grass/forb: herbaceous-dominated; usually the first successional stage for most upland habitats; herbaceous cover exceeds 5%; shrub or tree canopy is less than 5%.
2) shrub/seedling: dominated by woody shrubs or seedling trees (less than 3 cm dbh) or both with cover exceeding 5%; tree canopy is less than 5%; includes shrubs in both the tall shrub layer (B1 - between 2 m and 10 m tall) and the low shrub layer (B2 - below 2 m high). Species of low woody form or of doubtful lifeform are assigned to the herbaceous layer - these are listed in Walmsley *et al.* (Table 4.2, p. 141, 1980).
3) pole sapling: dominated by trees; tree canopy exceeds 5% closure; trees are generally less than 25 cm dbh; natural thinning is not underway; canopy is more or less even height; stands are generally less than 40 years old.
4) young: dominated by trees; tree canopy exceeds 5% cover; trees are generally 25-60 cm dbh; natural thinning beginning; stands are usually less than 80 years old, and not considered mature enough for harvesting.
5) mature: dominated by trees; tree canopy exceeds 5% cover; trees usually greater than 60 cm dbh; natural thinning underway; stands are usually 80-150 years old; understory regeneration of climax species well established.
6) old growth: dominated by trees; tree canopy exceeds 5% closure; dominant trees have greater than 60 cm dbh; all age and height of tree classes are represented; dead and down trees are present; stands usually older than 150 years.

Each of the latter five successional stages have been subdivided into three canopy closure classes, as closure strongly influences understory vegetation. The canopy closure classes are:

1) sparse (S): 0-25% canopy closure; this includes B.C. Forest Service inventory cover classes 0, 1, and 2.
2) moderate (M): 26-65% canopy closure; this includes B.C. Forest Service inventory cover classes 3, 4, 5 and 6.
3) dense (D): 66-100% canopy closure; this includes B.C. Forest Service inventory cover classes 7, 8 and 9.

Three additional columns are added after the successional stages to provide for ratings of specific habitat elements. These habitat elements are vegetative components that are not specific to any particular successional stage (and thus cannot be readily predicted from cover maps yet are important to wildlife). They are needed in a particular successional stage to attain the indicated value. The habitat elements are:

1) down materials (DM): trunks and limbs of trees in various stages of decomposition found on the forest floor of the habitat (dead and down woody material)

2) snags (SN): standing dead or dying trees from which the leaves and most of the limbs have fallen; broken off trees more than about 3 m tall are included.
3) deciduous (DEC): pertaining to a deciduous domination of that particular successional stage; used when coniferous domination is the normal condition for the habitat succession, though the presence of deciduous trees may greatly improve the suitability.

For the aquatic habitats, a second matrix format is used (see Figure 4). Values for the shallow open water habitat class are listed under "Pond". For other freshwater aquatic habitat classes, subdivisions are based on aquatic zones and substrate types. The aquatic zones are:

1) shore: substrate is continuously exposed, with less than 2% vegetation cover.
2) littoral: extends from shoreward boundary to a depth of 2 m below low water or to the maximum extent of plant rooting, whichever is greater; used in both lake and stream habitat classes.
3) deepwater or limnetic (DEEPW): open water, not closely associated with a bottom; restricted to the lake habitat class.

Substrate types are defined as:

1) rock (R): substrate consists of greater than 75% areal cover of stones (greater than 25 cm in size), or bedrock and vegetative cover is less than 26%.
2) unconsolidated (U): substrate with at least 25% areal cover of particles smaller than stones [1]; vegetative cover less than 26%.
3) aquatic bed (A): substrate with at least 26% vegetative cover, being dominated by plants that grow principally on or below the surface of the water for most of the growing season.

For man-influenced habitats and special habitats, a third matrix format is used (see Figure 5), in order to save space for "single entry" habitats. Only orchard habitat class is subdivided into young and mature (fruit-bearing), with moderate or dense canopy closure. The other habitat classes are cultivated field (C.FLD), pasture (PAST.), urban, barren (BARR.), man-made elements (M.M.ELE.) such as buildings and bridges, and special habitats (cliffs and caves).

The estimated value of a component of a habitat for a species seasonal life requisites is called the suitability index. This is a relative value, with four ratings of high (h), moderate (m), low (l), or nil:

1) high: provides for life requisites (reproduction, feeding or designated special needs [2]) and supports a relatively high population density (as implied by probability of occurrence of greater than 50%); can support positive recruitment (an increasing population or a stable population with dispersal); unit use greater than 50% of the time; this optimal value suggests that the minimum population numbers will be met; that is, 1 hectare of the habitat rated with H will provide 1 hectare of the required area.
2) moderate: provides for life requisites (reproduction, feeding, or designated special needs); supports medium population density (as implied by probably of occurrence of 26-50%); can support a stable population, with no dispersal excess; unit use 26-50% of the time; estimated to be one-half the value of high, and thus it will take 2 hectares of habitat to satisfy 1 hectare requirement for minimum population.
3) low: provides for life requisites (reproduction, feeding, or designated special needs); supports relatively low population density (as implied by a probability of occurrence less than 25%); supports viable population only with immigration or inhabited primarily by colonizing individuals; unit use less than 25% of the time; estimated to be one-fifth the value of high, and thus it will take 5 hectares of habitat to satisfy 1 hectare requirement for minimum population.
4) nil: designates that the habitat component is judged to be of little or no value to the species because it does not meet a species life requisites. The species is not expected to occur in the habitat.

All habitats are rated comparatively to each other to the degree possible. Hence, highs are equal with respect to meeting habitat requirements of a species, and similarly rated successional stages/canopy closure habitat components can be substituted for each other both within and among habitat classes. This means that in a system of planned manipulation of wildlife habitats, alternative amounts and kinds of habitat can be used to minimize impact on the habitat for species of special management concern; the status quo is not the only or possibly the best alternative.

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[1] includes cobbles (7.5-25 cm); gravel (2mm-7.5 cm); sands 0.05-2.0 mm; silts (0.002-0.05 mm); and clays (less than 0.002 mm) (Walmsley *et al.* 1980).

[2] possible designated needs include climatic extreme avoidance, antipredator cover, and migratory/movement cover.

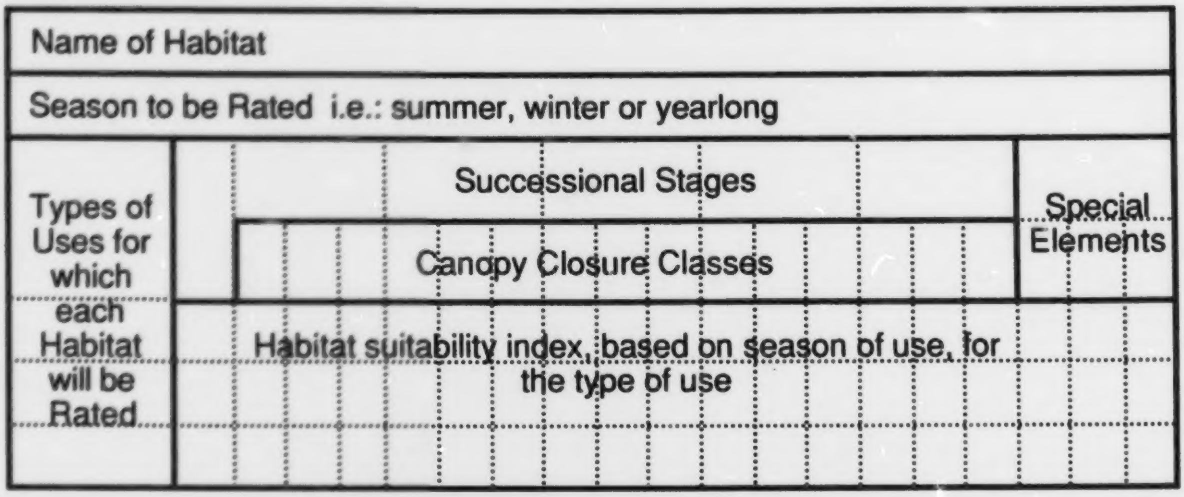
Name of Habitat
Season to be Rated i.e.: summer, winter or yearlong
Types of Uses for which each Habitat will be Rated
Successional Stages
Canopy Closure Classes
Special Elements
Habitat suitability index, based on season of use, for the type of use

Figure 3. Example of a matrix for upland or wetland habitats.

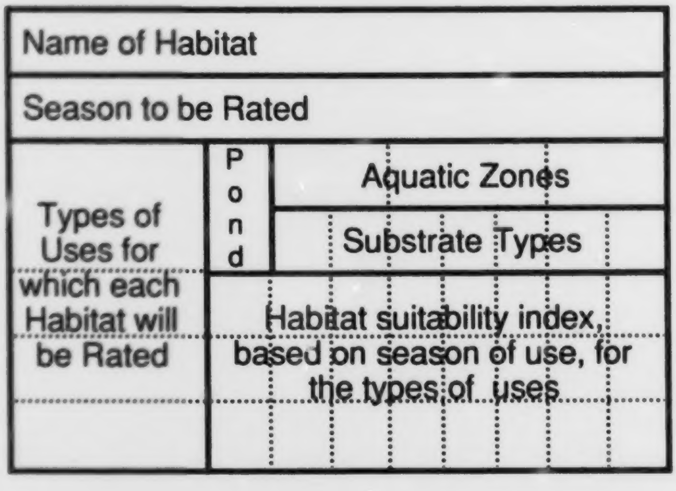
Name of Habitat
Season to be Rated
Types of Uses for which each Habitat will be Rated
P o n d
Aquatic Zones
Substrate Types
Habitat suitability index, based on season of use, for the types of uses

Figure 4. Example of a matrix for aquatic habitats

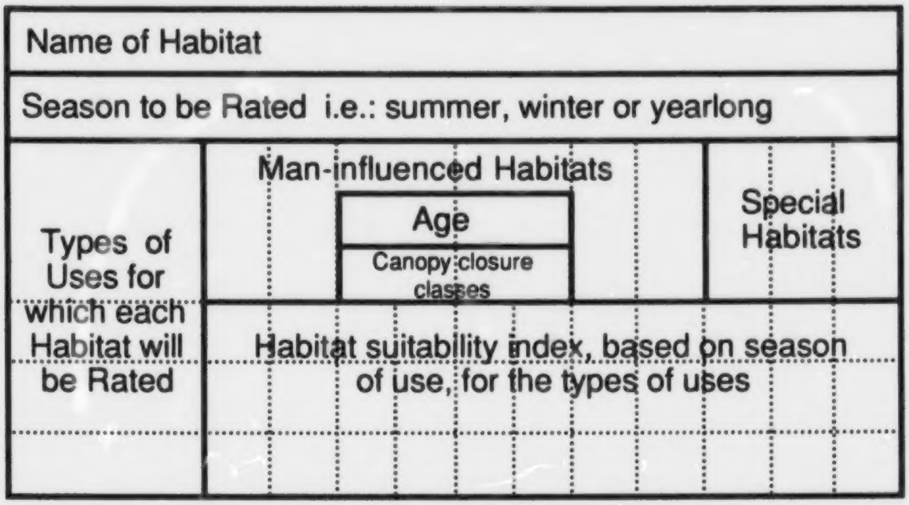
Name of Habitat
Season to be Rated i.e.: summer, winter or yearlong
Types of Uses for which each Habitat will be Rated
Man-influenced Habitats
Age
Canopy closure classes
Special Habitats
Habitat suitability index, based on season of use, for the types of uses

Figure 5. Example of a matrix for man-influenced habitats.

Table 1. Abundance classes for birds

ABUNDANCE [1]	DEFINITION
Very Abundant	Over 1000 individuals per day per locality (often in large flocks)
Abundant	200 to 1000 individuals per day per locality
Very common	50 to 200 individuals per day per locality
Common	20 to 50 individuals per day per locality
Fairly Common	7 to 20 individuals per day per locality
Uncommon	1 to 6 individuals per day per locality
Scarce	1 to 6 individuals per season
Very Scarce	Over 6 records, but of very infrequent occurrence
Casual	2 to 6 records (all time)
Accidental	Only 1 record (all time)

[1] all abundance classes may not be used in the following matrices.

2.2 Species - Habitat Relationship Models

SOUTHERN INTERIOR ECOPROVINCE

Pied-billed Grebe

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
marsh	summer	uncommon
shallow open water	summer	uncommon
lake	summer	fairly common
lake	winter	uncommon
slow perennial stream	summer	very scarce
slow perennial stream	winter	scarce

HABITAT marsh

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORBS	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h																		
REPRODUCTION	h																		
COVER	h																		

HABITAT shallow open water

SEASON OF USE summer

LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING	h							
REPRODUCTION								

HABITAT lake

SEASON OF USE winter

LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING				l	m	m	m	
REPRODUCTION								

Pied-billed Grebe

HABITAT lake								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING					1	h		
REPRODUCTION								
ESCAPE COVER				1	1	1	1	

SOUTHERN INTERIOR ECOPROVINCE

Great Blue Heron

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
Douglas-fir - ponderosa pine	summer	fairly common
black cottonwood riparian	summer	common
sedge wetland	summer	scarce
marsh	summer	uncommon
shallow open water	summer	uncommon
lake	summer	uncommon
lake	winter	scarce
slow perennial stream	summer	uncommon
slow perennial stream	winter	scarce
pasture	summer	uncommon

HABITAT Douglas-fir - ponderosa pine																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION								m	m	m	m	m	m	m	m	m			
COVER								1	1	1	1	1	1	1	1	1		h	

Great Blue Heron

HABITAT black cottonwood riparian																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION								l	l	l	h	h	h	h	h	h			
COVER								l	l	l	l	l	l	l	l	l		h	

HABITAT marsh																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h																		
REPRODUCTION																			

HABITAT shallow open water							
SEASON OF USE summer							
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING	m							
REPRODUCTION								

HABITAT lake								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING		l			m	h		
REPRODUCTION								

Great Blue Heron

HABITAT slow perennial stream

SEASON OF USE summer

LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING		1			1	1		
REPRODUCTION								

HABITAT pasture

SEASON OF USE summer

LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING		1									
REPRODUCTION											

SOUTHERN INTERIOR ECOPROVINCE

Wood Duck

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
black cottonwood riparian	summer	uncommon
marsh	summer	uncommon
shallow open water	summer	uncommon
lake	summer	uncommon
slow perennial stream	summer	uncommon

HABITAT black cottonwood riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION											h	h	h	h	h	h		h	

HABITAT marsh

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h																		
REPRODUCTION																			
COVER	h																		

Wood Duck

HABITAT shallow open water								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING	h							
REPRODUCTION								

HABITAT lake								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING		1		1	1	1		
REPRODUCTION								

HABITAT slow perennial stream								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING		1		1	1			
REPRODUCTION								

SOUTHERN INTERIOR ECOPROVINCE

Barrow's Goldeneye

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	summer	uncommon
Douglas-fir - ponderosa pine	summer	uncommon
Douglas-fir - lodgepole pine	summer	uncommon
Engelmann spruce - subalpine fir dry forested	summer	uncommon
spuce riparian	summer	uncommon
Engelmann spruce - subalpine fir dry parkland	summer	uncommon
trembling aspen copse	summer	uncommon
black cottonwood riparian	summer	uncommon
marsh	summer	common
shallow open water	summer	fairly common
lake	summer	common
lake	winter	very common
slow perennial stream	summer	uncommon
slow perennial stream	winter	very common

HABITAT ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION											m	m	m	m	m	m		m	

Barrow's Goldeneye

HABITAT Douglas-fir - ponderosa pine																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION											h	h	h	h	h	h		h	

HABITAT Douglas-fir - lodgepole pine																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION											m	m	m	m	m	m		m	

HABITAT Engelmann spruce - subalpine fir dry forested																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION											l	l	l	l	l	l		l	

Barrow's Goldeneye

HABITAT spruce riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION											1	1	1	1	1	1		1	

HABITAT Engelmann spruce - subalpine fir dry parkland

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION		1	1																

HABITAT trembling aspen copse

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION								h	h	h	h	h	h	h	h	h		h	

Barrow's Goldeneye

HABITAT black cottonwood riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION											h	h	h	h	h	h		h	

HABITAT marsh

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION																			
COVER	m																		

HABITAT shallow open water

SEASON OF USE summer

LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING	h							
REPRODUCTION								

HABITAT lake

SEASON OF USE summer

LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING					l	m	h	m
REPRODUCTION								
ESCAPE COVER		m						

Barrow's Goldeneye

HABITAT lake								
SEASON OF USE winter								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING					l	l	h	
REPRODUCTION								

HABITAT slow perennial stream								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING					l	l		
REPRODUCTION								
ESCAPE COVER		l						

HABITAT slow perennial stream								
SEASON OF USE winter								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING					m	m	m	
REPRODUCTION								

SOUTHERN INTERIOR ECOPROVINCE

Osprey

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	summer	uncommon
Douglas-fir - ponderosa pine	summer	uncommon
Douglas-fir - lodgepole pine	summer	uncommon
Engelmann spruce - subalpine fir dry forested	summer	uncommon
spruce riparian	summer	uncommon
black cottonwood riparian	summer	uncommon
marsh	summer	uncommon
shallow open water	summer	uncommon
lake	summer	uncommon
fast perennial stream	summer	uncommon
slow perennial stream	summer	uncommon
man-made elements	summer	uncommon

HABITAT ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION											m	m		m	m			m	

Osprey

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION											m	m	m	m	m	m		m	

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION											m	m	m	m	m	m		m	

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION											1	1	1	1	1	1			

Osprey

HABITAT spruce riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION											1	1	1	1	1	1		1	

HABITAT black cottonwood riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION											h	h	h	h	h	h		h	

HABITAT marsh

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1																		
REPRODUCTION																			

Osprey

HABITAT shallow open water								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING	1							
REPRODUCTION								

HABITAT lake								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING				h	h	h	1	
REPRODUCTION								

HABITAT fast perennial stream								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING				1	1			
REPRODUCTION								

HABITAT slow perennial stream								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING					h	h		
REPRODUCTION								

HABITAT man-made elements											
SEASON OF USE summer											
LIFE REQUISITES	C. F L D.	P A S T.	ORCHARD				URBAN	BARR.	M. M. E L E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING											
REPRODUCTION									h		

SOUTHERN INTERIOR ECOPROVINCE

Northern Goshawk

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	winter	scarce
Douglas-fir - ponderosa pine	summer	scarce
Douglas-fir - ponderosa pine	winter	scarce
Douglas-fir - lodgepole pine	summer	scarce
Douglas-fir - lodgepole pine	winter	scarce
Engelmann spruce - subalpine fir dry forested	summer	scarce
Engelmann spruce - subalpine fir dry forested	winter	scarce
trembling aspen copse	summer	scarce
trembling aspen copse	winter	scarce
black cottonwood riparian	winter	scarce

HABITAT ponderosa pine

SEASON OF USE winter

LIFE REQUISITES	GRASS/	FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
			S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING												m	m		m	m				
REPRODUCTION																				

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/	FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
			S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING												1	1		1	1				
REPRODUCTION																				

Northern Goshawk

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE winter

LIFE REQUISITES	GRASS/FORBS	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING											m	m	m	m	m	m			
REPRODUCTION																			

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORBS	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING									l	l	m	m	m	m	m	m			
REPRODUCTION											m	m	m	h	h	h			

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE winter

LIFE REQUISITES	GRASS/FORBS	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING											l	l	l	l	l	l			
REPRODUCTION																			

Northern Goshawk

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING									l	l	m	m	m	m	m	m			
REPRODUCTION											m	m	m	h	h	h			

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE winter

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING											l	l	l	l	l	l			
REPRODUCTION																			

HABITAT trembling aspen copse

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING											l	l	l						
REPRODUCTION																			

Northern Goshawk

HABITAT trembling aspen copse																			
SEASON OF USE winter																			
LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING							l	m	m	m	h	h	h						
REPRODUCTION																			

HABITAT black cottonwood riparian																			
SEASON OF USE winter																			
LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING							l	m	m	m	h	h	h	h	h	h			
REPRODUCTION																			

SOUTHERN INTERIOR ECOPROVINCE

Swainson's Hawk

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	summer	uncommon
Douglas-fir - ponderosa pine	summer	uncommon
trembling aspen copse	summer	uncommon
big sage shrub/grassland	summer	uncommon
bunchgrass grassland	summer	uncommon
cultivated field	summer	uncommon
pasture	summer	uncommon

HABITAT ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	m	l	l															
REPRODUCTION											m	m		m	m				

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	l	l																
REPRODUCTION											h	h	h	h	h	h			

Swainson's Hawk

HABITAT trembling aspen copse																			
SEASON OF USE summer																			
LIFE REQUISITES	G F R O A R S B S/	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING																			
REPRODUCTION											1	1	1	1	1	1			

HABITAT big sage shrub/grassland																			
SEASON OF USE summer																			
LIFE REQUISITES	G F R O A R S B S/	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	m	1	1															
REPRODUCTION																			

HABITAT bunchgrass grassland																			
SEASON OF USE summer																			
LIFE REQUISITES	G F R O A R S B S/	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h																		
REPRODUCTION																			

Swainson's Hawk

HABITAT cultivated field												
SEASON OF USE summer												
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. E. L. E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING	h										
REPRODUCTION											

HABITAT pasture											
SEASON OF USE summer											
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. E. L. E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING		m									
REPRODUCTION											

SOUTHERN INTERIOR ECOPROVINCE

Red-tailed Hawk

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	summer	uncommon
ponderosa pine	winter	scarce
Douglas-fir - ponderosa pine	summer	uncommon
Douglas-fir - ponderosa pine	winter	uncommon
Douglas-fir - lodgepole pine	summer	uncommon
Douglas-fir - lodgepole pine	winter	scarce
spruce riparian	yearlong	scarce
trembling aspen copse	summer	uncommon
trembling aspen copse	winter	scarce
black cottonwood riparian	summer	uncommon
black cottonwood riparian	winter	uncommon
big sage shrub/grassland	summer	uncommon
big samge shrub/grassland	winter	uncommon
bunchgrass grassland	yearlong	uncommon
cultivated field	yearlong	uncommon
orchard/vineyard	yearlong	uncommon
pasture	yearlong	uncommon

HABITAT ponderosa pine																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	1	1	1															
REPRODUCTION											m	m		m	m				

Red-tailed Hawk

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	1	1	1															
REPRODUCTION											h	h	h	h	h	h			

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE winter

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	1	1	1															
REPRODUCTION																			

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	1	1	1															
REPRODUCTION											1	1	1	1	1	1			

Red-tailed Hawk

HABITAT trembling aspen copse

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	1																	
REPRODUCTION											1	1	1	1	1	1			

HABITAT black cottonwood riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	1	1	1															
REPRODUCTION											h	h	h	h	h	h			

HABITAT black cottonwood riparian

SEASON OF USE winter

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	m	m	m														
REPRODUCTION																			

Red-tailed Hawk

HABITAT big sage shrub/grassland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	1	1	1															
REPRODUCTION																			

HABITAT big sage shrub/grassland																			
SEASON OF USE winter																			
LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	m	m															
REPRODUCTION																			

HABITAT bunchgrass grassland																			
SEASON OF USE yearlong																			
LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h																		
REPRODUCTION																			

Red-tailed Hawk

HABITAT cultivated field												
SEASON OF USE yearlong												
LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.MELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING	h										
REPRODUCTION											

HABITAT orchard/vineyard											
SEASON OF USE yearlong											
LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.MELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING			m	m	m	m					
REPRODUCTION											

HABITAT pasture											
SEASON OF USE yearlong											
LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.MELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING		h									
REPRODUCTION											

SOUTHERN INTERIOR ECOPROVINCE

American Kestrel

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	summer	uncommon
Douglas-fir - ponderosa pine	summer	uncommon
Douglas-fir - lodgepole pine	summer	uncommon
Engelmann spruce - subalpine fir dry forested	summer	uncommon
trembling aspen copse	summer	fairly common
black cottonwood riparian	summer	fairly common
big sage shrub/grassland	summer	uncommon
bunchgrass grassland	summer	fairly common
cultivated field	summer	fairly common
pasture	summer	fairly common
urban	summer	fairly common
man-made elements	summer	fairly common
cliffs	summer	scarce

HABITAT ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	m	m	l	l		l	l		m	m		m	m				
REPRODUCTION											h	h		h	h			h	

American Kestrel

HABITAT Douglas-fir - ponderosa pine																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	1	1		1														
REPRODUCTION											m	m	m	m	m	m		h	

HABITAT Douglas-fir - lodgepole pine																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	1																	
REPRODUCTION											1	1	1	1	1	1		m	

HABITAT Engelmann spruce - subalpine fir dry forested																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	1																	
REPRODUCTION											1	1	1	1	1	1		m	

American Kestrel

HABITAT trembling aspen copse

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	1																	
REPRODUCTION											h	h	h	h	h	h		h	

HABITAT black cottonwood riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	1	1															
REPRODUCTION											h	h	h	h	h	h		h	

HABITAT big sage shrub/grassland

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1															
REPRODUCTION																			

American Kestrel

HABITAT bunchgrass grassland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m																		
REPRODUCTION																			

HABITAT cultivated field											
SEASON OF USE summer											
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING	h										
REPRODUCTION											

HABITAT pasture											
SEASON OF USE summer											
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING		m									
REPRODUCTION											

American Kestrel

HABITAT urban

SEASON OF USE summer

LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							m				
REPRODUCTION											

HABITAT man-made elements

SEASON OF USE summer

LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING											
REPRODUCTION									m		
COVER									h		

SOUTHERN INTERIOR ECOPROVINCE

Spruce Grouse

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
Douglas-fir - lodgepole pine	yearlong	scarce
Engelmann spruce - subalpine fir dry forested	summer	fairly common
Engelmann spruce - subalpine fir dry forested	winter	fairly common
spruce riparian	yearlong	uncommon
spruce riparian	winter	uncommon

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	h	h	h	m	l		m	l		m	l		m	l				
REPRODUCTION								m	m	m	h	h	h	h	h				

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE winter

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					l	l	l	m	m	m	h	h	h	h	h	h			
REPRODUCTION																			

Spruce Grouse

HABITAT spruce riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	m	m	1														
REPRODUCTION								1	1	1	m	m	m	m	m	m			

HABITAT spruce riparian

SEASON OF USE winter

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								1	1	1	1	1	1	1	1	1			
REPRODUCTION																			

SOUTHERN INTERIOR ECOPROVINCE

Blue Grouse

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	summer	uncommon
ponderosa pine	winter	uncommon
Douglas-fir - ponderosa pine	summer	fairly common
Douglas-fir - ponderosa pine	winter	fairly common
Douglas-fir - lodgepole pine	summer	fairly common
Douglas-fir - lodgepole pine	winter	fairly common
Engelmann spruce - subalpine fir dry forested	summer	uncommon
Engelmann spruce - subalpine fir dry forested	winter	uncommon
Engelmann spruce - subalpine fir dry parkland	summer	uncommon
Engelmann spruce - subalpine fir dry parkland	winter	uncommon
trembling aspen copse	summer	fairly common
black cottonwood riparian	summer	fairly common
big sage shrub/grassland	summer	scarce
talus/rock	summer	uncommon
bunchgrass grassland	summer	uncommon
cultivated field	summer	uncommon

HABITAT ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1							1	1		1	1				
REPRODUCTION	m	m	m	1	1			1	1		1	1		1	1				

Blue Grouse

HABITAT ponderosa pine

SEASON OF USE winter

LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								l	l		l	l		l	l				
REPRODUCTION																			

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	m	l	l						m	l	l	m	l	l			
REPRODUCTION	h	h	m	l	l	l		l	l		m	l		m	l				

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE winter

LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								l	l		m	m	l	m	m	l			
REPRODUCTION																			

Blue Grouse

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1	1						1	1	1	1	1	1			
REPRODUCTION	m	m	1								1			1					

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE winter

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								1	1		1	1	1	1	1	1			
REPRODUCTION																			

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1															
REPRODUCTION	1	1	1	1															

Blue Grouse

HABITAT Engelman spruce - subalpine fir dry forested

SEASON OF USE winter

LIFE REQUISITES	G F R O A R S B S/	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1															
REPRODUCTION	1	1	1	1															
COVER											1	1		1	1				

HABITAT Engelmann spruce - subalpine fir dry parkland

SEASON OF USE summer

LIFE REQUISITES	G F R O A R S B S/	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	m								1			1					
REPRODUCTION		1	1																

HABITAT Engelmann spruce - subalpine fir dry parkland

SEASON OF USE winter

LIFE REQUISITES	G F R O A R S B S/	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING											m	1	1	m	1	1			
REPRODUCTION																			

Blue Grouse

HABITAT trembling aspen copse

SEASON OF USE summer

LIFE REQUISITES	G F R O A R S B S/	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	h	m	l	m	l	l	m	l	l	m	l	l						
REPRODUCTION		m	l	l	l	l	l	m	m	l	m	m	l						

HABITAT black cottonwood riparian

SEASON OF USE summer

LIFE REQUISITES	G F R O A R S B S/	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	h	m	l	m	l	l	l	l	l	l	l	l	m	l	l			
REPRODUCTION		m	l	l							l			l					
COVER																			

HABITAT talus/rock

SEASON OF USE summer

LIFE REQUISITES	G F R O A R S B S/	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	l	l																	
REPRODUCTION		l																	

Blue Grouse

HABITAT bunchgrass grassland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m																		
REPRODUCTION	l																		

HABITAT cultivated field											
SEASON OF USE summer											
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. E. L. E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING	h										
REPRODUCTION	l										

SOUTHERN INTERIOR ECOPROVINCE

Ruffed Grouse

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
Douglas-fir - ponderosa pine	summer	uncommon
Douglas-fir - ponderosa pine	winter	uncommon
Douglas-fir - lodgepole pine	summer	uncommon
Douglas-fir - lodgepole pine	winter	uncommon
Engelmann spruce - subalpine fir dry forested	yearlong	scarce
trembling aspen copse	yearlong	fairly common
black cottonwood riparian	yearlong	fairly common
orchard/vineyard	yearlong	scarce

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1		1														m
REPRODUCTION	1	1																	

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE winter

LIFE REQUISITES	GRASS/FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					1	1	1	1											
REPRODUCTION											1	1	1	1	1	1			

Ruffed Grouse

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	m	l	m	l	l	l	l		l	l		l					
REPRODUCTION	m	m	l	l	l	l		l	l		l	l		l					

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE winter

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		l	l	l	m	m	m	m	l	l	l	l	l	l	l	l			h
REPRODUCTION											l	l	l	l	l	l			

HABITAT trembling aspen copse

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	h	m	l	h	m	l	h	m	l	h	m	l						
REPRODUCTION		l	l	m	l	m	h	l	m	h	l	m	h				h		
COVER												l	l						

Ruffed Grouse

HABITAT trembling aspen copse

SEASON OF USE winter

LIFE REQUISITES	GRASS/FORBS	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		l	l	l	l	l	l	l	l	m	m	h	h						
REPRODUCTION																			

HABITAT black cottonwood riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORBS	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	h	m	l	h	m	l	h	m	l	h	m	l	h	m	l			
REPRODUCTION		l	l	m	l	m	h	l	m	h	l	m	h	l	m	h	h		

HABITAT black cottonwood riparian

SEASON OF USE winter

LIFE REQUISITES	GRASS/FORBS	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		l	l	l	l	l	l	l	l	m	m	h	h	m	h	h			
REPRODUCTION																			

SOUTHERN INTERIOR ECOPROVINCE

Sharp-tailed Grouse

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
trembling aspen copse	summer	uncommon
trembling aspen copse	winter	uncommon
black cottonwood riparian	summer	uncommon
black cottonwood riparian	winter	fairly common
big sage shrub/grassland	summer	scarce
bunchgrass grassland	summer	fairly common
bunchgrass grassland	winter	uncommon
shrub wetland	summer	scarce
shrub wetland	winter	uncommon
sedge wetland	summer	scarce
cultivated field	yearlong	uncommon
pasture	yearlong	fairly common

HABITAT trembling aspen copse

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	h	h	h	l	l	l	l	l	l	l	l	l						
REPRODUCTION	m	m	m	m															

Sharp-tailed Grouse

HABITAT trembling aspen copse																			
SEASON OF USE winter																			
LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	l	m	m	m	m	l	l	m	l	l	m	l	l						
REPRODUCTION																			

HABITAT black cottonwood riparian																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	l	l															
REPRODUCTION																			

HABITAT black cottonwood riparian																			
SEASON OF USE winter																			
LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		m	m	m	h	m	m	h	h	h	m	m	m	m	m	m			
REPRODUCTION																			

Sharp-tailed Grouse

HABITAT bunchgrass grassland

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h																		
REPRODUCTION	h																		

HABITAT bunchgrass grassland

SEASON OF USE winter

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1																		
REPRODUCTION																			

HABITAT shrub wetland

SEASON OF USE winter

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		1	1	1															
REPRODUCTION																			

Sharp-tailed Grouse

HABITAT cultivated field

SEASON OF USE yearlong

LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M.MELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING	h										
REPRODUCTION	l										

HABITAT pasture

SEASON OF USE yearlong

LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M.MELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING	m										
REPRODUCTION	l										

SOUTHERN INTERIOR ECOPROVINCE

Sandhill Crane

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
Douglas-fir - lodgepole pine	summer	scarce
Engelmann spruce - subalpine fir dry forested	summer	scarce
black cottonwood riparian	summer	uncommon
shrub wetland	summer	uncommon
sedge wetland	summer	uncommon
marsh	summer	uncommon
cultivated field	summer	very common
pasture	summer	uncommon

HABITAT black cottonwood riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	1																	
REPRODUCTION	1																		

Sandhill Crane

HABITAT shrub wetland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	l	l	l															
REPRODUCTION	l	l	m	h															

HABITAT sedge wetland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m																		
REPRODUCTION	l																		

HABITAT marsh																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	l																		
REPRODUCTION	h																		

Sandhill Crane

<table>
<tr><td colspan="12">HABITAT cultivated field</td></tr>
<tr><td colspan="12">SEASON OF USE summer</td></tr>
<tr><td rowspan="3">LIFE REQUISITES</td><td rowspan="3">C. FLD.</td><td rowspan="3">PAST.</td><td colspan="4">ORCHARD</td><td rowspan="3">URBAN</td><td rowspan="3">BARR.</td><td rowspan="3">M.M.ELE.</td><td rowspan="3">CLIFF</td><td rowspan="3">CAVE</td></tr>
<tr><td colspan="2">YOUNG</td><td colspan="2">MATURE</td></tr>
<tr><td>M</td><td>D</td><td>M</td><td>D</td></tr>
<tr><td>FEEDING</td><td>h</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>REPRODUCTION</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
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<table>
<tr><td colspan="12">HABITAT pasture</td></tr>
<tr><td colspan="12">SEASON OF USE summer</td></tr>
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<tr><td>FEEDING</td><td></td><td>m</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>REPRODUCTION</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
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SOUTHERN INTERIOR ECOPROVINCE

Greater Yellowlegs

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
sedge wetland	summer	uncommon
marsh	summer	fairly common
shallow open water	summer	fairly common
lake	summer	fairly common
fast perennial stream	summer	scarce
slow perennial stream	summer	uncommon
cultivated field	summer	scarce
pasture	summer	fairly common
urban	summer	fairly common

HABITAT sedge wetland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h																		
REPRODUCTION																			

Greater Yellowlegs

HABITAT marsh																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h																		
REPRODUCTION																			

HABITAT shallow open water								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING	h							
REPRODUCTION								

HABITAT lake								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING		m						
REPRODUCTION								

HABITAT slow perennial stream								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING		m						
REPRODUCTION								

Greater Yellowlegs

HABITAT pasture											
SEASON OF USE summer											
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING		m									
REPRODUCTION											

HABITAT urban											
SEASON OF USE summer											
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							h				
REPRODUCTION											

SOUTHERN INTERIOR ECOPROVINCE

Solitary Sandpiper

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
sedge wetland	summer	scarce
marsh	summer	scarce
shallow open water	summer	scarce
lake	summer	scarce
urban	summer	scarce

HABITAT sedge wetland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m																		
REPRODUCTION																			

HABITAT marsh																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1																		
REPRODUCTION																			

Solitary Sandpiper

HABITAT shallow open water								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING	m							
REPRODUCTION								

HABITAT lake								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING			m					
REPRODUCTION								

HABITAT urban											
SEASON OF USE summer											
LIFE REQUISITES	C. F. L. D.	P. A. S. T.	ORCHARD				URBAN	BARR.	M. M. E. L. E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							m				
REPRODUCTION											

SOUTHERN INTERIOR ECOPROVINCE

Long-billed Curlew

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
big sage shrub/grassland	summer	uncommon
bunchgrass grassland	summer	uncommon
sedge wetland	summer	uncommon
cultivated field	summer	uncommon
pasture	summer	uncommon
urban	summer	uncommon

HABITAT big sage shrub/grassland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	1	1																
REPRODUCTION	1	1																	

HABITAT bunchgrass grassland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h																		
REPRODUCTION	h																		

Long-billed Curlew

HABITAT sedge wetland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1																		
REPRODUCTION																			

HABITAT cultivated field										
SEASON OF USE summer										
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. E L E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING	m										
REPRODUCTION	1										

HABITAT pasture											
SEASON OF USE summer											
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. E L E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING		m									
REPRODUCTION		1									

Long-billed Curlew

HABITAT urban

SEASON OF USE summer

LIFE REQUISITES	C.F.L.D.	PAST.	ORCHARD				URBAN	BARR.	M.M.E.L.E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							1				
REPRODUCTION											

SOUTHERN INTERIOR ECOPROVINCE

Flammulated Owl

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
Douglas-fir - ponderosa pine	summer	uncommon
Douglas-fir - lodgepole pine	summer	scarce
trembling aspen copse	summer	casual

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	h	h	h				l	l		h	h	l	h	h	m			
REPRODUCTION											h	h	l	h	h	l		h	
COVER							l	l	m	m									

SOUTHERN INTERIOR ECOPROVINCE

Burrowing Owl

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
big sage shrub/grassland	summer	very scarce
bunchgrass grassland	summer	very scarce
cultivated field	summer	very scarce
pasture	summer	very scarce
man-made elements	summer	rare

HABITAT big sage shrub/grassland

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	1	1																
REPRODUCTION		m	1																

HABITAT bunchgrass grassland

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h																		
REPRODUCTION	h																		

Burrowing Owl

HABITAT cultivated field												
SEASON OF USE summer												
LIFE REQUISITES	C. F L D.	P A S T.	ORCHARD				U R B A N	B A R R.	M. M. E L E.	C L I F F	C A V E
			YOUNG		MATURE						
			M	D	M	D					
FEEDING	h										
REPRODUCTION	l										

HABITAT pasture												
SEASON OF USE summer												
LIFE REQUISITES	C. F L D.	P A S T.	ORCHARD				U R B A N	B A R R.	M. M. E L E.	C L I F F	C A V E
			YOUNG		MATURE						
			M	D	M	D					
FEEDING		h									
REPRODUCTION		m									

SOUTHERN INTERIOR ECOPROVINCE

Barred Owl

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	yearlong	scarce
Douglas-fir - ponderosa pine	yearlong	uncommon
Douglas-fir - lodgepole pine	yearlong	uncommon
Engelmann spruce - subalpine fir dry forested	yearlong	scarce
spruce riparian	yearlong	scarce
black cottonwood riparian	yearlong	uncommon
bunchgrass grassland	yearlong	casual

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	h	h	h							h	h	h	h	h	h			
REPRODUCTION											1	1	1	1	1	1		1	

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	h	h	h							h	h	h	h	h	h			
REPRODUCTION											1	1	1	1	1	1		1	

Barred Owl

HABITAT black cottonwood riparian

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	m	m					l	l	m	m	m	m	m	m			
REPRODUCTION									m	m	h	h	h	h	h	h		h	

SOUTHERN INTERIOR ECOPROVINCE

Northern Saw-whet Owl

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
Douglas-fir - ponderosa pine	summer	uncommon
Douglas-fir - ponderosa pine	winter	scarce
Douglas-fir - lodgepole pine	summer	uncommon
Douglas-fir - lodgepole pine	winter	scarce
Engelmann spruce - subalpine fir dry forested	summer	scarce
spruce riparian	summer	scarce
trembling aspen copse	summer	uncommon
trembling aspen copse	winter	scarce
black cottonwood riparian	summer	uncommon
black cottonwood riparian	winter	scarce
cultivated field	winter	scarce
orchard	yearlong	scarce
urban/residential	winter	scarce
man-made elements	winter	scarce

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	m	m							l			l					
REPRODUCTION								m	m	m	h	h	h	m	m	m		h	

Northern Saw-whet Owl

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	m	1							1			1					
REPRODUCTION											m	m	m	m	m	m		h	

HABITAT trembling aspen copse

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		1	1	1							1	1	1						
REPRODUCTION												m	m					m	

HABITAT black cottonwood riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		1	1	1					m	m	1	m	m	m	m	m			
REPRODUCTION										m	m	m	m	m	m	m		h	

SOUTHERN INTERIOR ECOPROVINCE

Lewis Woodpecker

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	summer	uncommon
Douglas-fir - ponderosa pine	summer	uncommon
Douglas-fir - lodgepole pine	summer	scarce
trembling aspen copse	summer	scarce
black cottonwood riparian	summer	uncommon
orchard/vineyard	yearlong	uncommon
pasture	summer	uncommon
urban	yearlong	uncommon
man-made elements	summer	uncommon

HABITAT ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1	1	1		1	1		m	m		m	m				
REPRODUCTION											m	m		m	m			m	

Lewis Woodpecker

HABITAT Douglas-fir - ponderosa pine																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1	1			1			1	1		1	1				
REPRODUCTION											1	1		1	1			1	

HABITAT black cottonwood riparian																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1							h	1		h	1				
REPRODUCTION											h	h	m	h	h	m		h	

HABITAT orchard/vineyard											
SEASON OF USE summer											
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING			1	1	1	1					
REPRODUCTION			1	1	1	1					

Lewis Woodpecker

HABITAT orchard/vineyard

SEASON OF USE winter

LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.MELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING			m	m	m	m					
REPRODUCTION											

HABITAT pasture

SEASON OF USE summer

LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.MELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING		1									
REPRODUCTION											

HABITAT urban

SEASON OF USE summer

LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.MELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							m				
REPRODUCTION							m				

Lewis Woodpecker

HABITAT urban

SEASON OF USE winter

LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							m				
REPRODUCTION											

HABITAT man-made elements

SEASON OF USE summer

LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING									l		
REPRODUCTION											

SOUTHERN INTERIOR ECOPROVINCE

Downy Woodpecker

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	yearlong	uncommon
Douglas-fir - ponderosa pine	yearlong	uncommon
Douglas-fir - lodgepole pine	yearlong	uncommon
Engelmann spruce - subalpine fir dry forested	yearlong	scarce
trembling aspen copse	yearlong	uncommon
black cottonwood riparian	yearlong	uncommon
big sage shrub/grassland	yearlong	scarce
shrub wetland	yearlong	scarce
orchard/vineyard	yearlong	uncommon
pasture	yearlong	scarce
urban	yearlong	uncommon
man-made elements	yearlong	scarce

HABITAT ponderosa pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					l	l		l	l		m	m		m	m			m	
REPRODUCTION											l	l		l	l			l	

Downy Woodpecker

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					l	l		l	l	l	m	m	m	m	m	m			
REPRODUCTION											l	l	l	l	l	l		l	

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					m	m	l	m	m	l	m	m	m	m	m	m			
REPRODUCTION								m	m	l	m	m	l	l	l	l		m	h

HABITAT trembling aspen copse

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					l	l	l	m	m	m	h	h	h						
REPRODUCTION								m	m	m	h	h	h					m	

Downy Woodpecker

HABITAT black cottonwood riparian																			
SEASON OF USE yearlong																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1				1	1	1	m	m	m	h	h	h	h	h	h			
REPRODUCTION								m	m	m	h	h	h	h	h	h		m	

HABITAT orchard/vineyard										
SEASON OF USE yearlong										
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING			1	1	1	1					
REPRODUCTION					1	1					

HABITAT urban											
SEASON OF USE yearlong											
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							1				
REPRODUCTION							1				

SOUTHERN INTERIOR ECOPROVINCE

Hairy Woodpecker

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
Douglas-fir - ponderosa pine	yearlong	uncommon
Douglas-fir - lodgepole pine	yearlong	uncommon
Engelmann spruce - subalpine fir dry forested	summer	scarce
spruce riparian	summer	scarce
trembling aspen copse	yearlong	uncommon
black cottonwood riparian	yearlong	uncommon
orchard/vineyard	yearlong	uncommon
pasture	winter	scarce
urban	yearlong	scarce
man-made elements	yearlong	scarce

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE yearlong

LIFE REQUISITES	G F R O A R S B S/	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					l	l	l	m	m	m	m	m	m	m	m	m			
REPRODUCTION											l	l	l	l	l	l		h	

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE yearlong

LIFE REQUISITES	G F R O A R S B S/	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								m	m	m	m	m	m	m	m	m			
REPRODUCTION										l	m	m	m	m	m	m		h	h

Hairy Woodpecker

HABITAT trembling aspen copse																			
SEASON OF USE yearlong																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								l	l	l	m	m	m						
REPRODUCTION											m	m	m					m	

HABITAT black cottonwood riparian																			
SEASON OF USE yearlong																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								m	m	m	h	h	h	h	h	h			
REPRODUCTION								m	m	m	h	h	h	h	h	h		h	

HABITAT orchard/vineyard											
SEASON OF USE yearlong											
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M. ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING			m	m							
REPRODUCTION											

SOUTHERN INTERIOR ECOPROVINCE

White-headed Woodpecker

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	summer	scarce
ponderosa pine	winter	very scarce
Douglas-fir - ponderosa pine	summer	scarce
Douglas-fir - lodgepole pine	summer	casual

HABITAT ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING											m	m		h	h				
REPRODUCTION											m	m		h	h			m	

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING											m	m	m	m	m	m			
REPRODUCTION											m	m	m	m	m	m		m	

SOUTHERN INTERIOR ECOPROVINCE

Three-toed Woodpecker

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	yearlong	scarce
Douglas-fir - ponderosa pine	yearlong	uncommon
Douglas-fir - lodgepole pine	yearlong	uncommon
Engelmann spruce - subalpine fir dry forested	yearlong	uncommon
spruce riparian	yearlong	uncommon
Engelmann spruce - subalpine fir dry parkland	yearlong	scarce

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/FORBS/	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								1	1	1	1	1	1	1	1	1			
REPRODUCTION											1	1	1	1	1	1		1	

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/FORBS/	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								m	m	m	m	m	m	m	m	m			
REPRODUCTION											m	m	m	m	m	m			

Three-toed Woodpecker

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					l	l	l	m	m	m	h	h	h	h	h	h			
REPRODUCTION											h	h	h	h	h	h		h	

HABITAT spruce riparian

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								l	l	l	m	m	m	m	m	m			
REPRODUCTION											m	m	m	m	m	m		m	

SOUTHERN INTERIOR ECOPROVINCE

Northern Flicker

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	yearlong	uncommon
Douglas-fir - ponderosa pine	yearlong	uncommon
Douglas-fir - lodgepole pine	yearlong	uncommon
Engelmann spruce - subalpine fir dry forested	yearlong	uncommon
spruce riparian	summer	uncommon
Engelmann spruce - subalpine fir dry parkland	summer	scarce
trembling aspen copse	summer	uncommon
black cottonwood riparian	yearlong	fairly common
big sage shrub/grassland	summer	scarce
bunchgrass grassland	summer	uncommon
cultivated field	yearlong	uncommon
orchard/vineyard	yearlong	uncommon
pasture	yearlong	uncommon
urban	yearlong	uncommon
man-made elements	yearlong	uncommon

HABITAT ponderosa pine

SEASON OF USE yearlong

LIFE REQUISITES	G F R O A R S B S/	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	m		m	m		m	m		m	m		m	m		m		
REPRODUCTION											m	m		m	m			m	

Northern Flicker

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	l	l	l	l		m	l	l	m	l	l	m	l	l		m	
REPRODUCTION																			
COVER								l	l	l	m	m	m	m	m	m		h	

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	l	l	l	l				l	l	l	l	l	l	l	l	l	l		
REPRODUCTION								l	l	l	m	m	m	m	m	m		m	h

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	l	l	l	l				l	l	l	l	l	l	l	l	l	l		
REPRODUCTION								l	l	l	l	l	l	l	l	l	l	l	

Northern Flicker

HABITAT spruce riparian																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1															
REPRODUCTION								1	1	1	1	1	1	1	1	1		1	

HABITAT trembling aspen copse																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	m	m				1	1	1	1	1	1				1		
REPRODUCTION								m	m	m	h	h	h					1	

HABITAT black cottonwood riparian																			
SEASON OF USE yearlong																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	h	h	h	m			m	m	m	m	m	m	m	m	m	m		
REPRODUCTION								h	h	h	h	h	h	h	h	h		h	

Northern Flicker

HABITAT bunchgrass grassland

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORBS	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1																		
REPRODUCTION																			

HABITAT cultivated field

SEASON OF USE yearlong

LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. E L E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING	1										
REPRODUCTION											

HABITAT orchard/vineyard

SEASON OF USE yearlong

LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. E L E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING			m	m	m	m					
REPRODUCTION					1	1					

Northern Flicker

HABITAT pasture											
SEASON OF USE yearlong											
LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING		1									
REPRODUCTION											

HABITAT urban											
SEASON OF USE yearlong											
LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							m				
REPRODUCTION							1				

HABITAT man-made elements											
SEASON OF USE yearlong											
LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING											
REPRODUCTION									1		
COVER									1		

SOUTHERN INTERIOR ECOPROVINCE

Pileated Woodpecker

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	yearlong	uncommon
Douglas-fir - ponderosa pine	yearlong	uncommon
Douglas-fir - lodgepole pine	yearlong	uncommon
black cottonwood riparian	yearlong	uncommon

HABITAT ponderosa pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								l	l		l	l		m	m		m	m	
REPRODUCTION														m	m			m	

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								l	l		m	m	m	h	h	h	h	h	
REPRODUCTION													h	h	h	h		h	

Pileated Woodpecker

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING											l	l	l	m	m	m	m	m	
REPRODUCTION											l	l	l	m	m	m		m	h

HABITAT black cottonwood riparian

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		l	l	l	l	l	l	l	l	l	h	h	h	h	h	h	m	h	
REPRODUCTION											h	h	h	h	h	h			

SOUTHERN INTERIOR ECOPROVINCE

Tree Swallow

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	summer	fairly common
Douglas-fir - ponderosa pine	summer	fairly common
Douglas-fir - lodgepole pine	summer	fairly common
Engelmann spruce - subalpine fir dry forested	summer	uncommon
spruce riparian	summer	uncommon
trembling aspen copse	summer	common
black cottonwood riparian	summer	common
big sage shrub/grassland	summer	fairly common
bunchgrass grassland	summer	fairly common
shrub wetland	summer	common
sedge wetland	summer	common
marsh	summer	common
shallow open water	summer	common
lake	summer	common
fast perennial stream	summer	common
slow perennial stream	summer	common
cultivated field	summer	fairly common
orchard/vineyard	summer	fairly common
pasture	summer	fairly common
urban	summer	fairly common
man-made elements	summer	common
cliffs	summer	fairly common
caves	summer	uncommon

Tree Swallow

HABITAT ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1															
REPRODUCTION								1	1		1	1		1	1			1	

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1															
REPRODUCTION								1	1		1	1		1	1			1	m

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1															
REPRODUCTION								1	1		1	1		1	1			1	m

Tree Swallow

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1															
REPRODUCTION								1	1		1	1		1	1			1	1

HABITAT spruce riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1															
REPRODUCTION								1	1		1	1		1	1			1	1

HABITAT trembling aspen copse

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	1	1	1	1	1	1	1	1	1	1	1	1						
REPRODUCTION								m	m	m	m	m	m					m	

Tree Swallow

HABITAT black cottonwood riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	h	h	h	m	m	m	m	m	m	l	l	l	l	l	l			
REPRODUCTION								m	m	m	h	h	h	h	h	h		h	

HABITAT big sage shrub/grassland

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	l	l	l	l															
REPRODUCTION																			

HABITAT bunchgrass grassland

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	l																		
REPRODUCTION																			

Tree Swallow

HABITAT shrub wetland

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	m	m															
REPRODUCTION																			

HABITAT sedge wetland

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m																		
REPRODUCTION																			

HABITAT marsh

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h																		
REPRODUCTION																			

Tree Swallow

HABITAT shallow open water								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING	h							
REPRODUCTION								

HABITAT fast perennial stream								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING		m	m	l	l	m		
REPRODUCTION								

HABITAT lake								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING		m	m	m	m	h	m	
REPRODUCTION								

HABITAT slow perennial stream								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING		h	h	m	m	h		
REPRODUCTION								

HABITAT cultivated field											
SEASON OF USE summer											
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.E.L.E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING	l										
REPRODUCTION											

Tree Swallow

HABITAT orchard/vineyard											
SEASON OF USE summer											
LIFE REQUISITES	C.F.L.D.	PAST.	ORCHARD				URBAN	BARR.	M.M.E.L.E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING				1		1					
REPRODUCTION				1		1					

HABITAT pasture											
SEASON OF USE summer											
LIFE REQUISITES	C.F.L.D.	PAST.	ORCHARD				URBAN	BARR.	M.M.E.L.E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING		m									
REPRODUCTION											

HABITAT urban											
SEASON OF USE summer											
LIFE REQUISITES	C.F.L.D.	PAST.	ORCHARD				URBAN	BARR.	M.M.E.L.E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							m				
REPRODUCTION							m				

Tree Swallow

HABITAT man-made elements

SEASON OF USE summer

LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.E.L.E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING											
REPRODUCTION									h		

HABITAT cliffs

SEASON OF USE summer

LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.E.L.E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING											
REPRODUCTION										1	

HABITAT caves

SEASON OF USE summer

LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.E.L.E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING											
REPRODUCTION											1

SOUTHERN INTERIOR ECOPROVINCE

Clark's Nutcracker

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	summer	uncommon
ponderosa pine	winter	fairly common
Douglas-fir - ponderosa pine	summer	uncommon
Douglas-fir - ponderosa pine	winter	fairly common
Engelmann spruce - subalpine fir dry parkland	summer	uncommon
Engelmann spruce - subalpine fir dry forested	summer	fairly common
black cottonwood riparian	summer	scarce
man-made elements	winter	uncommon

HABITAT ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								1	1		1	1		1	1				
REPRODUCTION								1	1		1	1		1	1				

Clark's Nutcracker

HABITAT ponderosa pine

SEASON OF USE winter

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								m	m		m	m		m	m				
REPRODUCTION																			

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								h	h	h	h	h	h	h	h	h			
REPRODUCTION								h	h	h	h	h	h	h	h	h			

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE winter

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								h	h	h	h	h	h	h	h	h			
REPRODUCTION																			

Clark's Nutcracker

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								1	1	1	1	1	1	1	1	1			
REPRODUCTION								1	1	1	1	1	1	1	1	1			

HABITAT Engelmann spruce - subalpine fir dry parkland

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								m	m		m	m		m	m				
REPRODUCTION								h	h		h	h		h	h				

HABITAT man-made elements

SEASON OF USE winter

LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M. ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING									1		
REPRODUCTION											

SOUTHERN INTERIOR ECOPROVINCE

Mountain Chickadee

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	yearlong	fairly common
Douglas-fir - ponderosa pine	summer	fairly common
Douglas-fir - ponderosa pine	winter	common
Douglas-fir - lodgepole pine	yearlong	fairly common
Engelmann spruce - subalpine fir dry forested	summer	uncommon
spruce riparian	summer	scarce
Engelmann spruce - subalpine fir parkland	summer	fairly common
black cottonwood riparian	yearlong	uncommon
urban	summer	uncommon
urban	winter	fairly common
man-made elements	summer	uncommon

HABITAT ponderosa pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/	FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
			S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING									1	1		1	1		1	1				
REPRODUCTION									1	1		1	1		1	1			m	

Mountain Chickadee

HABITAT Douglas-fir - ponderosa pine																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					l	l	l	h	h	h	h	h	h	h	h				
REPRODUCTION								h	h	h	h	h	h	h	h	h		h	h

HABITAT Douglas-fir - ponderosa pine																			
SEASON OF USE winter																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					l	l	l	h	h	h	h	h	h	h	h	h			
REPRODUCTION																			

HABITAT Douglas-fir - lodgepole pine																			
SEASON OF USE yearlong																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					l	l	l	l	l	l	m	m	m	m	m	m			
REPRODUCTION								l	l	l	m	m	m	m	m	m	m	m	

Mountain Chickadee

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								1	1	1	1	1	1	1	1	1			
REPRODUCTION								1	1	1	1	1	1	1	1	1		m	

HABITAT Engelmann spruce - subalpine fir dry parkland

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								m	m		m	m		m	m				
REPRODUCTION								m	m		m	m		m	m			h	

HABITAT black cottonwood riparian

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					1	1	1	1	1	1	1	1	1	1	1	1			
REPRODUCTION								1	1	1	1	1	1	1	1	1		m	
COVER																		m	

Mountain Chickadee

HABITAT urban											
SEASON OF USE summer											
LIFE REQUISITES	C. F L D.	P A S T.	ORCHARD				URBAN	BARR.	M. M. E L E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							1				
REPRODUCTION							1				

HABITAT urban											
SEASON OF USE winter											
LIFE REQUISITES	C. F L D.	P A S T.	ORCHARD				URBAN	BARR.	M. M. E L E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							m				
REPRODUCTION											

HABITAT man-made elements											
SEASON OF USE summer											
LIFE REQUISITES	C. F L D.	P A S T.	ORCHARD				URBAN	BARR.	M. M. E L E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING											
REPRODUCTION									m		

SOUTHERN INTERIOR ECOPROVINCE

Boreal Chickadee

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
Douglas-fir - lodgepole pine	yearlong	uncommon
Engelmann spruce - subalpine fir dry forested	yearlong	fairly common
spruce riparian	yearlong	uncommon
Engelmann spruce - subalpine fir dry parkland	yearlong	uncommon

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								l	l	l	l	l	l	l	l	l			
REPRODUCTION								l	l	l.	l	l	l	l	l	l		m	m

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								l	l	l	m	m	h	h	h	h			
REPRODUCTION											h	h	h	h	h	h		h	

Boreal Chickadee

HABITAT spruce riparian																			
SEASON OF USE yearlong																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING											1	1	m	m	m	m			
REPRODUCTION											m	m	m	m	m	m		m	

HABITAT Engelmann spruce - subalpine fir dry parkland																			
SEASON OF USE yearlong																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								1	1		1	1		1	1				
REPRODUCTION								1	1		1	1		1	1			m	

SOUTHERN INTERIOR ECOPROVINCE

Red-breasted Nuthatch

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	yearlong	uncommon
Douglas-fir - ponderosa pine	yearlong	fairly common
Douglas-fir - lodgepole pine	yearlong	fairly common
Engelmann spruce - subalpine fir dry forested	yearlong	uncommon
spruce riparian	yearlong	uncommon
Engelmann spruce - subalpine fir dry parkland	yearlong	uncommon
trembling aspen copse	yearlong	scarce
black cottonwood riparian	yearlong	fairly common
orchard/vineyard	yearlong	scarce
urban	yearlong	uncommon
man-made elements	yearlong	fairly common

HABITAT ponderosa pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								1	1		1	1		1	1				
REPRODUCTION	h							1	1		1	1		1	1			1	
COVER																		h	

Red-breasted Nuthatch

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								h	h	h	h	h	h	h	h	h			
REPRODUCTION								h	h	h	h	h	h	h	h	h		h	
COVER																		h	

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								l	l	l	m	m	m	m	m	m			
REPRODUCTION								l	l	l	m	m	m	m	m	m		m	m
COVER																		h	

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								l	l	l	l	l	l	l	l	l			
REPRODUCTION								l	l	l	l	l	l	l	l	l		m	
COVER																		h	

Red-breasted Nuthatch

HABITAT spruce riparian

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								l	l	l	l	l	l	l	l	l			
REPRODUCTION								l	l	l	l	l	l	l	l	l		m	m
COVER																		h	

HABITAT Engelmann spruce - subalpine fir dry parkland

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								m	m		m	m		m	m				
REPRODUCTION								m	m		m	m		m	m			m	
COVER																		h	

HABITAT black cottonwood riparian

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING									m	m	m	m	m	m	m	m			
REPRODUCTION					m	m	m	h	h	h	h	h	h	h	h	h		h	
COVER																		h	

Red-breasted Nuthatch

HABITAT urban											
SEASON OF USE yearlong											
LIFE REQUISITES	C. F L D.	P A S T.	ORCHARD				U R B A N	B A R R.	M. M. E L E.	C L I F F	C A V E
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							1				
REPRODUCTION							1				

HABITAT man-made elements											
SEASON OF USE yearlong											
LIFE REQUISITES	C. F L D.	P A S T.	ORCHARD				U R B A N	B A R R.	M. M. E L E.	C L I F F	C A V E
			YOUNG		MATURE						
			M	D	M	D					
FEEDING									m		
REPRODUCTION											

SOUTHERN INTERIOR ECOPROVINCE

Pygmy Nuthatch

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	yearlong	uncommon
Douglas-fir - ponderosa pine	yearlong	uncommon
black cottonwood riparian	yearlong	uncommon
man-made elements	yearlong	uncommon

HABITAT ponderosa pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								m	m		h	h		h	h				
REPRODUCTION					l	l		l	l		h	h		h	h			h	
COVER																		h	

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING											l	l	l	l	l	l			
REPRODUCTION											l	l	l	l	l	l		m	
COVER																		m	

Pygmy Nuthatch

HABITAT black cottonwood riparian

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								m	m	m	m	m	m	m	m	m			
REPRODUCTION								1	1	1	1	1	1	1	1	1		m	
COVER																		m	

HABITAT man-made elements

SEASON OF USE yearlong

LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING											
REPRODUCTION									h		
COVER									h		

SOUTHERN INTERIOR ECOPROVINCE

Brown Creeper

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
Douglas-fir - ponderosa pine	yearlong	uncommon
Douglas-fir - lodgepole pine	yearlong	uncommon
Engelmann spruce - subalpine fir dry forested	summer	uncommon
spruce riparian	summer	uncommon
black cottonwood riparian	yearlong	uncommon
urban	winter	scarce

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					l	l	l	l	l	l	h	h	h	h	h	h			
REPRODUCTION											l	m	m	l	m	m		l	
COVER																		h	

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					l	l	l	l	l	l	m	m	m	m	m	m			
REPRODUCTION											l	m	m	l	m	m		l	
COVER																		h	

Brown Creeper

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					l	l	l	l	l	l	h	h	h	h	h	h			
REPRODUCTION											l	m	m	l	m	m		l	

HABITAT spruce riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					l	l	l	l	l	l	h	h	h	h	h	h			
REPRODUCTION											l	m	m	l	m	m		l	

HABITAT black cottonwood riparian

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								l	l	l	l	l	l	l	l	l			
REPRODUCTION											l	l	l	l	l	l		l	
COVER																		h	

SOUTHERN INTERIOR ECOPROVINCE

Mountain Bluebird

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	summer	uncommon
Douglas-fir - ponderosa pine	summer	uncommon
Douglas-fir - lodgepole pine	summer	fairly common
Engelmann spruce - subalpine fir dry forested	summer	fairly common
spruce riparian	summer	uncommon
Engelmann spruce - subalpine fir dry parkland	summer	uncommon
trembling aspen copse	summer	uncommon
black cottonwood riparian	summer	uncommon
big sage shrub/grassland	summer	fairly common
bunchgrass grassland	summer	fairly common
dry alpine	summer	uncommon
cultivated field	summer	fairly common
orchard/vineyard	summer	uncommon
pasture	summer	fairly common
urban	summer	uncommon
talus/rock	summer	uncommon

HABITAT ponderosa pine																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	m	m															
REPRODUCTION											1			1				1	

Mountain Bluebird

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	m	m															
REPRODUCTION											1			1				1	

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	1	1	1															
REPRODUCTION											1			1				1	

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	1	1	1															
REPRODUCTION											1			1				1	

Mountain Bluebird

HABITAT spruce riparian																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1															
REPRODUCTION											1			1				1	

HABITAT Engelmann spruce - subalpine fir dry parkland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1															
REPRODUCTION											1			1				1	

HABITAT trembling aspen copse																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	1	1	1															
REPRODUCTION								h	m	1	h	m	1					m	

Mountain Bluebird

HABITAT black cottonwood riparian																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/FORBS	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1															
REPRODUCTION								1			1			1				1	

HABITAT big sage shrub/grassland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/FORBS	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	m	m															
REPRODUCTION	1	1	1	1															

HABITAT bunchgrass grassland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/FORBS	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h																		
REPRODUCTION	1																		

Mountain Bluebird

HABITAT dry alpine																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1																		
REPRODUCTION	1																		

HABITAT talus/rock																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1																
REPRODUCTION		1	1																

HABITAT cultivated field											
SEASON OF USE summer											
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M.MELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING	m										
REPRODUCTION	1										

Mountain Bluebird

HABITAT orchard/vineyard

SEASON OF USE summer

LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING			1	1	1	1					
REPRODUCTION			1	1	1	1					

HABITAT urban

SEASON OF USE summer

LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							1				
REPRODUCTION							1				

HABITAT pasture

SEASON OF USE summer

LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING		m									
REPRODUCTION		1									

SOUTHERN INTERIOR ECOPROVINCE

Hermit Thrush

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
Douglas-fir - lodgepole pine	summer	uncommon
Engelmann spruce - subalpine fir dry forested	summer	fairly common
spruce riparian	summer	fairly common
Engelmann spruce - subalpine fir dry parkland	summer	fairly common

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		l	l	l	l	l	l	l	l	l	l	l	l	l	l	l			
REPRODUCTION								l	l		l	l		l	l				

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		m	m	m	l	l	l	m	m	l	h	h	m	m	m	l			
REPRODUCTION		l	l	l	l	l	l	m	m	l	h	h	m	m	m	l			

Hermit Thrush

HABITAT spruce riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		m	m	m	l	l	l	m	m	l	h	h	m	m	m	l			
REPRODUCTION						l	l	m	m	l	h	h	m	m	m	l			

HABITAT Engelmann spruce - subalpine fir dry parkland

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	l	l						l	l		m	m	l	l	l				
REPRODUCTION								l	l		m	m		l	l				

SOUTHERN INTERIOR ECOPROVINCE

Varied Thrush

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
Douglas-fir - lodgepole pine	summer	uncommon
Engelmann spruce - subalpine fir dry forested	summer	fairly common
spruce riparian	summer	fairly common
Engelmann spruce - subalpine fir dry parkland	summer	uncommon
black cottonwood riparian	summer	scarce
urban	summer	scarce

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING									l	l	l	m	m	l	m	m			
REPRODUCTION										l	l	m	m	l	m	m			

Varied Thrush

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING									l	m	m	h	h	m	h	h			
REPRODUCTION									l	m	m	h	h	m	h	h			

HABITAT spruce riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING									l	m	m	h	h	m	h	h			
REPRODUCTION									l	m	m	h	h	m	h	h			

HABITAT Engelmann spruce - subalpine fir dry parkland

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING									l		l	l		l	l				
REPRODUCTION									l			l			l				

SOUTHERN INTERIOR ECOPROVINCE

Sage Thrasher

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
big sage shrub/grassland	summer	scarce
talus/rock	summer	scarce

SOUTHERN INTERIOR ECOPROVINCE

Bohemian Waxwing

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
Douglas-fir - ponderosa pine	winter	uncommon
Douglas-fir - lodgepole pine	winter	uncommon
Engelmann spruce - subalpine fir dry forested	winter	fairly common
black cottonwood riparian	winter	common
talus/rock	winter	common
orchard/vineyard	winter	very common
urban	winter	abundant

HABITAT Douglas-fir - ponderosa pine																				
SEASON OF USE winter																				
LIFE REQUISITES	GRASS/	FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
			S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING			1	1	1							1			1					
REPRODUCTION																				

Bohemian Waxwing

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE winter

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		1	1	1							1			1					
REPRODUCTION																			

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE winter

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		1	1	1							1			1					
REPRODUCTION																			

HABITAT black cottonwood riparian

SEASON OF USE winter

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		m	m	m							m	1		m	1				
REPRODUCTION																			

Bohemian Waxwing

HABITAT talus/rock

SEASON OF USE winter

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		1	1	1															
REPRODUCTION																			

HABITAT orchard/vineyard

SEASON OF USE winter

LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING			m	m	m	m					
REPRODUCTION											

HABITAT urban

SEASON OF USE winter

LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							h				
REPRODUCTION											

SOUTHERN INTERIOR ECOPROVINCE

Yellow-rumped Warbler

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	summer	uncommon
Douglas-fir - ponderosa pine	summer	common
Douglas-fir - lodgepole pine	summer	common
Engelmann spruce - subalpine fir dry forested	summer	fairly common
spruce riparian	summer	uncommon
Engelmann spruce - subalpine fir dry parkland	summer	uncommon
trembling aspen copse	summer	uncommon
black cottonwood riparian	summer	fairly common
talus/rock	summer	uncommon
shrub wetland	summer	uncommon
orchard/vineyard	summer	uncommon
urban	summer	uncommon

HABITAT ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		1	1		1	1		1	1		1	1		1	1				
REPRODUCTION					1	1		1	1		1	1		1	1				

Yellow-rumped Warbler

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		m	m	m	m	m	m	h	h	h	h	h	h	h	h	h			
REPRODUCTION					m	m	m	h	h	h	h	h	h	h	h	h			

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					l	l	l	m	m	m	h	h	m	h	h	m			
REPRODUCTION					l	l	l	m	m	m	h	h	m	h	h	m			

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								l	l	l	m	m	l	m	m	l			
REPRODUCTION								l			m	m	l	m	m	l			

Yellow-rumped Warbler

HABITAT spruce riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		m	m	m	1	1	1	1	1	1	m	m	1	m	m	1			
REPRODUCTION					m	m		m	m		m	m	1	m	m	1			

HABITAT Engelmann spruce - subalpine fir dry parkland

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING					1	1		1	1		1	1		1	1				
REPRODUCTION					1	1		1	1		1	1		1	1				

HABITAT trembling aspen copse

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								1	1	1	1	1	1						
REPRODUCTION								1	1	1	1	1	1						

Yellow-rumped Warbler

HABITAT black cottonwood riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		m	m	m	m	m	m	m	m	m	m	m	m	m	m	m			
REPRODUCTION								1	1	1	1	1	1	1	1	1			
COVER (MIGRATION)		h	h	h	h	h	h	h	h	h	h	h	h	h	h	h			

HABITAT talus/rock

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		1	1																
REPRODUCTION		1	1																

HABITAT shrub wetland

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		1	1	1															
REPRODUCTION		1	1	1															

Yellow-rumped Warbler

HABITAT orchard/vineyard

SEASON OF USE summer

LIFE REQUISITES	C. F L D.	P A S T.	ORCHARD				U R B A N	B A R R.	M. M. E L E.	C L I F F	C A V E
			YOUNG		MATURE						
			M	D	M	D					
FEEDING			1	1	1	1					
REPRODUCTION			1	1	1	1					

HABITAT urban

SEASON OF USE summer

LIFE REQUISITES	C. F L D.	P A S T.	ORCHARD				U R B A N	B A R R.	M. M. E L E.	C L I F F	C A V E
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							1	1			
REPRODUCTION											

SOUTHERN INTERIOR ECOPROVINCE

Townsend's Warbler

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
Douglas-fir - lodgepole pine	summer	fairly common
Engelmann spruce - subalpine fir dry forested	summer	fairly common
spruce riparian	summer	uncommon

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING											l	h	h	l	h	h			l
REPRODUCTION											l	h	h	l	h	h			

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING											l	h	h	l	h	h			l
REPRODUCTION											l	h	h	l	h	h			

Townsend's Warbler

HABITAT spruce riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING											l	m	m	l	m	m			
REPRODUCTION																			

SOUTHERN INTERIOR ECOPROVINCE

Brewer's Sparrow

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
big sage shrub/grassland	summer	uncommon
bunchgrass grassland	summer	uncommon

HABITAT big sage shrub/grassland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	h	h															
REPRODUCTION		1	h	h															

HABITAT bunchgrass grassland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1																		
REPRODUCTION	1																		

SOUTHERN INTERIOR ECOPROVINCE

Song Sparrow

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
Douglas-fir - lodgepole pine	summer	uncommon
Engelmann spruce - subalpine fir dry forested	summer	uncommon
spruce riparian	summer	uncommon
trembling aspen copse	summer	uncommon
black cottonwood riparian	summer	fairly common
black cottonwood riparian	winter	uncommon
shrub wetland	summer	fairly common
sedge wetland	summer	fairly common
marsh	summer	fairly common
marsh	winter	uncommon
pasture	summer	uncommon
pasture	winter	uncommon
urban	summer	uncommon
urban	winter	uncommon

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		1	1	1															
REPRODUCTION																			

Song Sparrow

HABITAT Engelmann spruce - subalpine fir dry forested																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		1	1	1															
REPRODUCTION		1	1	1															

HABITAT spruce riparian																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		m	m	m										1					
REPRODUCTION		m	m	m										1					

HABITAT trembling aspen copse																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		1	1	1				1			1								
REPRODUCTION		1	1	1				1			1								

Song Sparrow

HABITAT black cottonwood riparian																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	l	h	h	h	l	l	l	m	l	l	m	l	l	m	l	l			
REPRODUCTION	l	h	h	h	l	l	l	m	l	l	m	l	l	m	l	l			

HABITAT black cottonwood riparian																			
SEASON OF USE winter																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		m	m	m				l			l			l					
REPRODUCTION																			

HABITAT shrub wetland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	h	h	h															
REPRODUCTION	m	h	h	h															

Song Sparrow

HABITAT sedge wetland

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m																		
REPRODUCTION	m																		

HABITAT marsh

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m																		
REPRODUCTION	m																		

HABITAT marsh

SEASON OF USE winter

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1																		
REPRODUCTION	1																		

Song Sparrow

HABITAT pasture											
SEASON OF USE summer											
LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING		1									
REPRODUCTION		1									

HABITAT pasture											
SEASON OF USE winter											
LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING		1									
REPRODUCTION											

HABITAT urban											
SEASON OF USE winter											
LIFE REQUISITES	C.FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							m				
REPRODUCTION											

Song Sparrow

HABITAT urban

SEASON OF USE summer

LIFE REQUISITES	C. F. L. D.	PAST.	ORCHARD				URBAN	BARR.	M. M. E. L. E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							1				
REPRODUCTION							1				

SOUTHERN INTERIOR ECOPROVINCE

Lincoln's Sparrow

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
Douglas-fir - lodgepole pine	summer	uncommon
Engelmann spruce - subalpine fir dry forested	summer	uncommon
spruce riparian	summer	fairly common
alpine meadow/subalpine meadow	summer	uncommon
shrub wetland	summer	uncommon

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		1	1	1															
REPRODUCTION		1	1	1															

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		1	1	1															
REPRODUCTION		1	1	1															

Lincoln's Sparrow

HABITAT spruce riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	l	h	h	h															
REPRODUCTION		h	h	h															

HABITAT alpine meadow/subalpine meadow

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m																		
REPRODUCTION	m																		

HABITAT shrub wetland

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		h	h	h															
REPRODUCTION		h	h	h															

SOUTHERN INTERIOR ECOPROVINCE

Dark-eyed Junco

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	summer	fairly common
ponderosa pine	winter	uncommon
Douglas-fir - ponderosa pine	summer	fairly common
Douglas-fir - ponderosa pine	winter	uncommon
Douglas-fir - lodgepole pine	summer	common
Engelmann spruce - subalpine fir dry forested	summer	common
spruce riparian	summer	fairly common
Engelmann spruce - subalpine fir dry parkland	summer	uncommon
trembling aspen copse	summer	uncommon
black cottonwood riparian	summer	uncommon
black cottonwood riparian	winter	fairly common
talus/rock	summer	uncommon
alpine meadow/subalpine meadow	summer	fairly common
shrub wetland	summer	fairly common
orchard/vineyard	winter	fairly common
pasture	summer	uncommon
urban	summer	uncommon
urban	winter	common
man-made elements	summer	uncommon
man-made elements	winter	common

Dark-eyed Junco

HABITAT ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								1	1		1	1		1	1				
REPRODUCTION								1	1		1	1		1	1		1		

HABITAT ponderosa pine

SEASON OF USE winter

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								1	1		1	1		1	1				
REPRODUCTION																			

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		m	m	m				m	1		m	1		m	1				
REPRODUCTION		m	m	m				m	1		m	1		m	1		m		

Dark-eyed Junco

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE winter

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		1	1	1				1			1			1					
REPRODUCTION																			

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	h	h	h	1			m	1		m	1		m	1				
REPRODUCTION		h	h	h	1			m	1		m	1		m	1		m		

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	h	h	h	1			1	1		1	1		1	1				
REPRODUCTION		h	h	h				1	1		1	1		1	1		m		

Dark-eyed Junco

HABITAT spruce riparian

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	m	m	m	1														
REPRODUCTION		m	m	m	1												m		

HABITAT Engelmann spruce - subalpine fir dry parkland

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1				1			1			1					
REPRODUCTION		1	1	1				1			1			1			1		

HABITAT trembling aspen copse

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1	1				1			1								
REPRODUCTION		1	1	1				1			1						1		

Dark-eyed Junco

HABITAT black cottonwood riparian																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1	1	1		1			1			1			1					
REPRODUCTION	1	1	1		1			1			1			1			1		

HABITAT black cottonwood riparian																			
SEASON OF USE winter																			
LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m	m	m		m			m			m			m					
REPRODUCTION																			

HABITAT talus/rock																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		1	1																
REPRODUCTION		1	1														1		

Dark-eyed Junco

HABITAT alpine meadow/subalpine meadow

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	m																		
REPRODUCTION	1																1		

HABITAT shrub wetland

SEASON OF USE summer

LIFE REQUISITES	GRASS/FORB	SHRUB/SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		m	m	m															
REPRODUCTION		m	m	m													m		

HABITAT orchard/vineyard

SEASON OF USE winter

LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING			m	m	m	m					
REPRODUCTION											

Dark-eyed Junco

HABITAT pasture

SEASON OF USE summer

LIFE REQUISITES	C. F. L. D.	P. A. S. T.	ORCHARD				U R B A N	B A R R.	M. M. E. L. E.	C L I F F	C A V E
			YOUNG		MATURE						
			M	D	M	D					
FEEDING		1									
REPRODUCTION		1									

HABITAT urban

SEASON OF USE winter

LIFE REQUISITES	C. F. L. D.	P. A. S. T.	ORCHARD				U R B A N	B A R R.	M. M. E. L. E.	C L I F F	C A V E
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							h				
REPRODUCTION											

HABITAT urban

SEASON OF USE summer

LIFE REQUISITES	C. F. L. D.	P. A. S. T.	ORCHARD				U R B A N	B A R R.	M. M. E. L. E.	C L I F F	C A V E
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							1				
REPRODUCTION							1				

Dark-eyed Junco

HABITAT man-made elements											
SEASON OF USE summer											
LIFE REQUISITES	C. F. L. D.	P. A. S. T.	ORCHARD				URBAN	B. A. R. R.	M. M. E. L. E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING									l		
REPRODUCTION											

HABITAT man-made elements											
SEASON OF USE winter											
LIFE REQUISITES	C. F. L. D.	P. A. S. T.	ORCHARD				URBAN	B. A. R. R.	M. M. E. L. E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING									h		
REPRODUCTION											

SOUTHERN INTERIOR ECOPROVINCE

Western Meadowlark

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
big sage shrub/grassland	summer	fairly common
big sage shrub/grassland	winter	scarce
bunchgrass grassland	summer	fairly common
bunchgrass grassland	winter	scarce
cultivated field	summer	fairly common
cultivated field	winter	scarce
orchard/vineyard	summer	uncommon
orchard/vineyard	winter	scarce
pasture	summer	fairly common
pasture	winter	scarce
urban	yearlong	scarce
man-made elements	summer	fairly common
man-made elements	winter	scarce

HABITAT big sage shrub/grassland

SEASON OF USE summer

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h	m	m	m															
REPRODUCTION	h	m	m	m															

Western Meadowlark

HABITAT bunchgrass grassland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORBS	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h																		
REPRODUCTION	h																		

HABITAT cultivated field												
SEASON OF USE summer												
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. E L E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING	m										
REPRODUCTION	m										

HABITAT orchard/vineyard											
SEASON OF USE summer											
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M. M. E L E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING			1	1	1	1					
REPRODUCTION			1	1	1	1					

Western Meadowlark

HABITAT pasture

SEASON OF USE summer

LIFE REQUISITES	C. F L D.	P A S T.	ORCHARD				U R B A N	B A R R.	M. M. E L E.	C L I F F	C A V E
			YOUNG		MATURE						
			M	D	M	D					
FEEDING		m									
REPRODUCTION		l									

HABITAT man-made elements

SEASON OF USE summer

LIFE REQUISITES	C. F L D.	P A S T.	ORCHARD				U R B A N	B A R R.	M. M. E L E.	C L I F F	C A V E
			YOUNG		MATURE						
			M	D	M	D					
FEEDING											
REPRODUCTION											
COVER									h		

SOUTHERN INTERIOR ECOPROVINCE

Yellow-headed Blackbird

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
sedge wetland	summer	uncommon
marsh	summer	common
shallow open water	summer	fairly common
lake	summer	fairly common
cultivated field	summer	fairly common
pasture	summer	fairly common
urban	summer	uncommon

HABITAT sedge wetland																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	1																		
REPRODUCTION																			

HABITAT marsh																			
SEASON OF USE summer																			
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING	h																		
REPRODUCTION	h																		

Yellow-headed Blackbird

HABITAT shallow open water								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING	1							
REPRODUCTION								

HABITAT lake								
SEASON OF USE summer								
LIFE REQUISITES	POND	SHORE		LITTORAL			DEEP W.	
		R	U	R	U	A	R	U
FEEDING		1						
REPRODUCTION								

HABITAT cultivated field											
SEASON OF USE summer											
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.E.L.E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING	m										
REPRODUCTION											

HABITAT pasture											
SEASON OF USE summer											
LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.E.L.E.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING		m									
REPRODUCTION											

Yellow-headed Blackbird

HABITAT urban											
SEASON OF USE summer											
LIFE REQUISITES	C. F L D.	P A S T.	ORCHARD				U R B A N	B A R R.	M. M. E L E.	C L I F F	C A V E
			YOUNG		MATURE						
			M	D	M	D					
FEEDING							1				
REPRODUCTION											

SOUTHERN INTERIOR ECOPROVINCE

Pine Grosbeak

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
Douglas-fir - ponderosa pine	summer	scarce
Douglas-fir - ponderosa pine	winter	uncommon
Douglas-fir - lodgepole pine	summer	scarce
Douglas-fir - lodgepole pine	winter	uncommon
Engelmann spruce - subalpine fir dry forested	yearlong	uncommon
spruce riparian	yearlong	uncommon
Engelmann spruce - subalpine fir dry parkland	yearlong	uncommon
trembling aspen copse	winter	scarce
black cottonwood riparian	winter	fairly common
orchard/vineyard	winter	uncommon
urban	winter	fairly common

HABITAT Douglas-fir - ponderosa pine

SEASON OF USE winter

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE- SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								1	1	1	1	1	1	1	1	1			
REPRODUCTION																			

Pine Grosbeak

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE winter

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								l	l		l	l	l	l	l	l			
REPRODUCTION																			

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								m	m	m	h	h	h	h	h	h			
REPRODUCTION								m	m	l	h	h	m	h	h	m			

HABITAT spruce riparian

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								m	m	m	h	h	h	h	h	h			
REPRODUCTION								m	m	l	h	h	m	h	h	m			

Pine Grosbeak

HABITAT Engelmann spruce - subalpine fir dry parkland

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								m	m		h	h		h	h				
REPRODUCTION								m	m		h	h		h	h				

HABITAT black cottonwood riparian

SEASON OF USE winter

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING		h	h	h	h	h	h	m			m			m					
REPRODUCTION																			

HABITAT orchard/vineyard

SEASON OF USE winter

LIFE REQUISITES	C. FLD.	PAST.	ORCHARD				URBAN	BARR.	M.M.ELE.	CLIFF	CAVE
			YOUNG		MATURE						
			M	D	M	D					
FEEDING			m	m	m	m					
REPRODUCTION											

Pine Grosbeak

<table>
<tr><td colspan="12">HABITAT urban</td></tr>
<tr><td colspan="12">SEASON OF USE winter</td></tr>
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<tr><td colspan="2">YOUNG</td><td colspan="2">MATURE</td></tr>
<tr><td>M</td><td>D</td><td>M</td><td>D</td></tr>
<tr><td>FEEDING</td><td></td><td></td><td></td><td></td><td></td><td></td><td>m</td><td></td><td></td><td></td><td></td></tr>
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SOUTHERN INTERIOR ECOPROVINCE

Red Crossbill

HABITAT	SEASON OF USE	RELATIVE ABUNDANCE
ponderosa pine	yearlong	uncommon
Douglas-fir - ponderosa pine	yearlong	uncommon
Douglas-fir - lodgepole pine	yearlong	uncommon
Engelmann spruce - subalpine fir dry forested	yearlong	uncommon
black cottonwood riparian	yearlong	uncommon
urban	yearlong	scarce

HABITAT Ponderosa pine																				
SEASON OF USE yearlong																				
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								l	l		l	l		l	l				
REPRODUCTION								l	l		l	l		l	l				

HABITAT Douglas-fir - ponderosa pine																				
SEASON OF USE yearlong																				
LIFE REQUISITES	GRASS/ FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								m	m	m	h	h	h	h	h	h			
REPRODUCTION								m	m	m	h	h	h	h	h	h			

Red Crossbill

HABITAT Douglas-fir - lodgepole pine

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								1	1	1	m	m	m	m	m	m			
REPRODUCTION								1	1	1	m	m	m	m	m	m			

HABITAT Engelmann spruce - subalpine fir dry forested

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								1	1	1	1	1	1	1	1	1			
REPRODUCTION								1	1	1	1	1	1	1	1	1			

HABITAT black cottonwood riparian

SEASON OF USE yearlong

LIFE REQUISITES	GRASS/FORB	SHRUB/ SEEDLING			POLE-SAPLING			YOUNG			MATURE			OLD GROWTH			SPECIAL ELEMENTS		
		S	M	D	S	M	D	S	M	D	S	M	D	S	M	D	DM	SN	DEC
FEEDING								1	1	1	1	1	1	1	1	1			
REPRODUCTION									1	1	1	1	1	1	1	1			

3

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[1] numbers preceding semi-colon are found in Section 2; numbers after the semi-colon are found in Appendix.

5

Appendices

5. APPENDICES

5.1 Land Areas Required to Support Minimum Populations

This appendix contains data that relate numbers of a species required to support a minimum population to the area of habitat required. Because of the perceived controversy these numbers may generate, this information has been delegated to an appendix. It will be updated/altered when new data become available. Basically, these tables attempt to provide information that will allow the translation of a suitability index into carrying capacity (potential number of animals). These data indicate the number of individuals of a species believed necessary to maintain a population under optimal habitat conditions along with the amount of such habitat a population would need.

Towry (1984) attempted the formation of a similar data set for Colorado, except that he referred to minimum viable populations. The concept of viability is extremely involved, so this appendix uses the concept of a minimum population – it is thought that several interacting minimum populations of a species would have to be managed to attain genetic viability. Literature on a minimum population size is very sparse, so Towry (1984) was used as a guide. One should note that similar species with similar life histories have similar population estimates.

Population numbers are those of an adult population of breeders in the spring of the year (or in the case of winter, for that population that will be adult breeders in the upcoming spring), with an even sex ratio. The minimum area required is derived from data on home range and territory size. Division of data into summer and/or winter may be made if applicable. During the process of translating suitability values into animal numbers, it must be assumed that no overlap of required range occurs. Area requirements are further identified as to those required for feeding and reproduction, based on estimates of the relative proportions of each required. The sum of these areas may not be mutually exclusive; habitat variability has been subjectively assessed to give a value for the degree that these reciprocal properties exist.

Pied-billed Grebe

MINIMUM POPULATION		60
MINIMUM HABITAT AREA (HECTARES)		180
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	3	2
REPRODUCTION	3	
TOTAL	120	60

Great Blue Heron

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		60
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING		
REPRODUCTION	3	
TOTAL	3	

Wood Duck

MINIMUM POPULATION		40
MINIMUM HABITAT AREA (HECTARES)		80
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	1	
REPRODUCTION	1	
TOTAL	2	

Barrow's Goldeneye

MINIMUM POPULATION		40
MINIMUM HABITAT AREA (HECTARES)		200
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	1	5
REPRODUCTION	1	
TOTAL	2	5

Osprey

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		3100
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	150	
REPRODUCTION	5	
TOTAL	155	

Northern Goshawk

MINIMUM POPULATION		20
MINIMUM HABITAT AREA		2000
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	200	
REPRODUCTION	8	
TOTAL	200	

Swainson's Hawk

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		10,000
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	500	
REPRODUCTION	10	
TOTAL	500	

Red-tailed Hawk

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		10,000
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	300	500
REPRODUCTION	10	
TOTAL	310	500

American Kestrel

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		2000
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	100	
REPRODUCTION	50	
TOTAL	100	

Spruce Grouse

MINIMUM POPULATION		100
MINIMUM HABITAT AREA (HECTARES)		1500
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	15	
REPRODUCTION	5	
TOTAL	15	

Blue Grouse

MINIMUM POPULATION		100
MINIMUM HABITAT AREA (HECTARES)		2000
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	5	2
REPRODUCTION	2	
TOTAL	20	17

Ruffed Grouse

MINIMUM POPULATION		100
MINIMUM HABITAT AREA (HECTARES)		700
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	5	5
REPRODUCTION	2	
TOTAL	7	7

Sharp-tailed Grouse

MINIMUM POPULATION		30
MINIMUM HABITAT AREA (HECTARES)		900
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	30	15
REPRODUCTION	.5	
TOTAL	30	15

Sandhill Crane

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		10,000
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	350	
REPRODUCTION	150	
TOTAL	500	

Greater Yellowlegs

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		200
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	10	
REPRODUCTION	1	
TOTAL	10	

Solitary Sandpiper

MINIMUM POPULATION		30
MINIMUM HABITAT AREA (HECTARES)		1500
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	50	
REPRODUCTION	2	
TOTAL	50	

Long-billed Curlew

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		100
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	5	
REPRODUCTION	1	
TOTAL	5	

Flammulated Owl

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		500
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	25	
REPRODUCTION	3	
TOTAL	25	

Burrowing Owl

MINIMUM POPULATION		10
MINIMUM HABITAT AREA (HECTARES)		400
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	20	
REPRODUCTION	2	
TOTAL	20	

Barred Owl

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		5000
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	125	250
REPRODUCTION	5	
TOTAL	125	250

Northern Saw-whet Owl

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		200
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	10	
REPRODUCTION	5	
TOTAL	10	

Lewis Woodpecker

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		160
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	6	
REPRODUCTION	4	
TOTAL	8	

Downy Woodpecker

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		80
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	3	3
REPRODUCTION	2	
TOTAL	4	3

Hairy Woodpecker

MINIMUM POPULATION		30
MINIMUM HABITAT AREA (HECTARES)		300
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	10	10
REPRODUCTION	10	
TOTAL	10	10

White-headed Woodpecker

MINIMUM POPULATION		30
MINIMUM HABITAT AREA (HECTARES)		1050
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	30	
REPRODUCTION	5	
TOTAL	35	

Three-toed Woodpecker

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		700
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	30	30
REPRODUCTION	5	
TOTAL	35	30

Northern Flicker

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		400
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	20	20
REPRODUCTION	3	
TOTAL	20	20

Pileated Woodpecker

MINIMUM POPULATION		40
MINIMUM HABITAT AREA (HECTARES)		4800
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	120	120
REPRODUCTION	5	
TOTAL	120	120

Tree Swallow

MINIMUM POPULATION		50
MINIMUM HABITAT AREA (HECTARES)		75
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	3	
REPRODUCTION	.1	
TOTAL	3	

Clark's Nutcracker

MINIMUM POPULATION		30
MINIMUM HABITAT AREA (HECTARES)		450
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	10	15
REPRODUCTION	5	
TOTAL	15	15

Mountain Chickadee

MINIMUM POPULATION		50
MINIMUM HABITAT AREA (HECTARES)		150
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	1.5	3
REPRODUCTION	1.5	
TOTAL	1.5	3

Boreal Chickadee

MINIMUM POPULATION		50
MINIMUM HABITAT AREA (HECTARES)		250
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	10	5
REPRODUCTION	10	
TOTAL	10	5

Red-breasted Nuthatch

MINIMUM POPULATION		50
MINIMUM HABITAT AREA (HECTARES)		100
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	1	2
REPRODUCTION	1	
TOTAL	1	2

Pygmy Nuthatch

MINIMUM POPULATION		50
MINIMUM HABITAT AREA (HECTARES)		150
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	2	3
REPRODUCTION	1.5	
TOTAL	2	3

Brown Creeper

MINIMUM POPULATION		50
MINIMUM HABITAT AREA (HECTARES)		500
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	5	10
REPRODUCTION	5	
TOTAL	5	10

Mountain Bluebird

MINIMUM POPULATION		50
MINIMUM HABITAT AREA (HECTARES)		75
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	1.5	3
REPRODUCTION	1.5	
TOTAL	1.5	

Hermit Thrush

MINIMUM POPULATION		40
MINIMUM HABITAT AREA (HECTARES)		40
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	2	
REPRODUCTION	1	
TOTAL	2	

Varied Thrush

MINIMUM POPULATION		40
MINIMUM HABITAT AREA (HECTARES)		400
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	20	
REPRODUCTION	20	
TOTAL	20	

Sage Thrasher

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		120
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	5	
REPRODUCTION	1	
TOTAL	6	

Bohemian Waxwing

MINIMUM POPULATION		40
MINIMUM HABITAT AREA (HECTARES)		40
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING		1
REPRODUCTION		
TOTAL		1

Yellow-rumped Warbler

MINIMUM POPULATION		
MINIMUM HABITAT AREA (HECTARES)		
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	1	
REPRODUCTION	1	
TOTAL	1	

Townsend's Warbler

MINIMUM POPULATION		30
MINIMUM HABITAT AREA (HECTARES)		30
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	1	
REPRODUCTION	1	
TOTAL	1	

Brewer's Sparrow

MINIMUM POPULATION		30
MINIMUM HABITAT AREA (HECTARES)		8
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	.25	
REPRODUCTION	.25	
TOTAL	.25	

Song Sparrow

MINIMUM POPULATION		40
MINIMUM HABITAT AREA (HECTARES)		20
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	1	1
REPRODUCTION	1	
TOTAL	1	1

Lincoln's Sparrow

MINIMUM POPULATION		40
MINIMUM HABITAT AREA (HECTARES)		20
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	1	
REPRODUCTION	1	
TOTAL	1	

Dark-eyed Junco

MINIMUM POPULATION		50
MINIMUM HABITAT AREA (HECTARES)		25
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	1	1
REPRODUCTION	1	
TOTAL	1	1

Western Meadowlark

MINIMUM POPULATION		20
MINIMUM HABITAT AREA (HECTARES)		100
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	5	
REPRODUCTION	5	
TOTAL	5	

Yellow-headed Blackbird

MINIMUM POPULATION		60
MINIMUM HABITAT AREA (HECTARES)		12
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	.15	
REPRODUCTION	.05	
TOTAL	.2	

Pine Grosbeak

MINIMUM POPULATION		30
MINIMUM HABITAT AREA (HECTARES)		600
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING	10	20
REPRODUCTION	10	
TOTAL	10	20

Red Crossbill

MINIMUM POPULATION		50
MINIMUM HABITAT AREA (HECTARES)		500
AREA (ha) REQUIRED FOR	PER INDIVIDUAL	
	SUMMER	WINTER
FEEDING		10
REPRODUCTION		
TOTAL		10

WILDLIFE HABITAT HANDBOOKS FOR THE SOUTHERN INTERIOR ECOPROVINCE

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